The Running Argument On Journal Bearings

July 20, 1959

RAILWAY AGE *weekly*

WP drives a new line through the mountains

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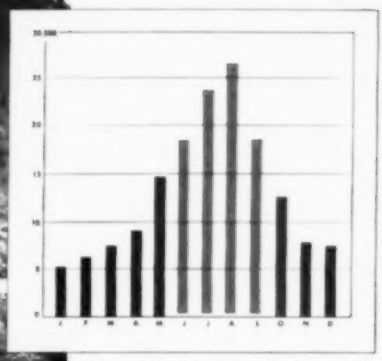
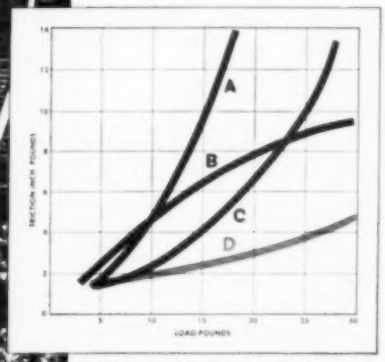


Summer heat increases hotbox setoffs more than 100%. Setoffs reported for June, July and August, 1958, represent an average of one setoff for every 119,000 car miles, compared with January average of one setoff in every 495,000 car miles.



There's less friction throughout the boundary range with Texaco Car Oil 1960 HD (curve D) than with AAR specification non-additive car oil (A) or either of two competitive premium car oils (B and C).

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because Texaco Car Oil 1960 HD cuts boundary lubrication friction at least 50%

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The chart at the top shows you how hotbox setoffs jump during the summer—more than 100% more frequent. The graph below it shows you why Texaco Car Oil 1960 HD is your best solution to this problem.

Now's the time you need this protection most. With "dog days" already here—the one thing you can change fast is the oil—by adequate free oiling with the proper grade for summer heat. Your Texaco Railroad Lubrication Engineer will be glad to show you a complete report on Texaco Car Oil 1960 HD—show you what it can do for your operation. Call him, or write:

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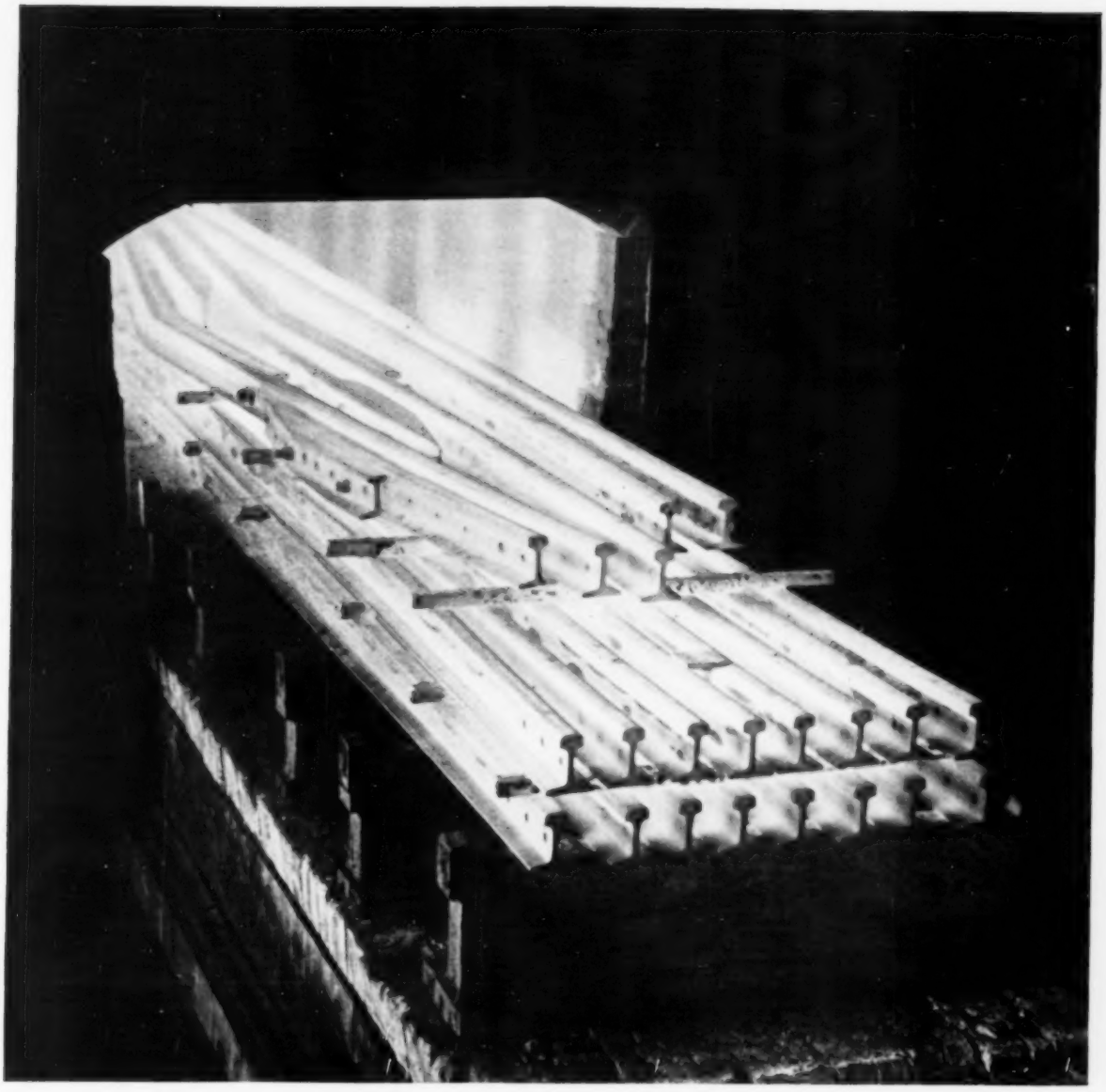

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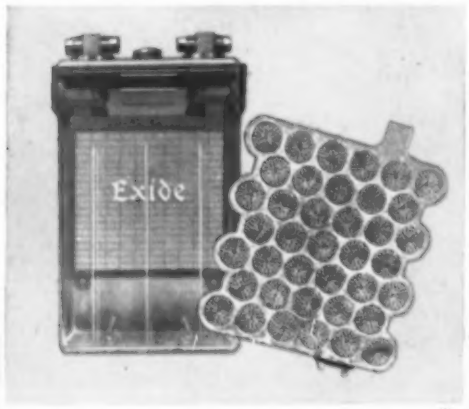

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RAILWAY AGE *weekly* July 20, 1959 • Vol. 147, No. 3

Week at a Glance

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Steel strike: How RRs are hit ..... p. 9

Anticipating traffic losses ranging from 5% to 90%, railroads closely linked to basic steel last week were forced to lay off thousands of employees. Here's an account of the steel shutdown's initial impact on the industry, based on a Railway Age poll of major steel, ore and coal carriers.

Strike insurance plan revealed p.13

Drafts of a "service interruption" insurance policy—designed to protect railroads from any divide-and-conquer strategy—are now before carriers for approval. It requires the approval of roads representing at least 65% of the industry's gross operating revenues.

War-readiness hearings begin p.15

House subcommittee wants to find out if the transportation industry could meet the demands of mobilization.

Now: Electronic reservations p.20

The new pushbutton reservation system known as Magnetronic Reservisor is at work on the Santa Fe and the New Haven. A third road—New York Central—is still running tests.

Cover Story—Western Pacific's new line p.30

A state-sponsored dam project has forced the WP to take a section of line out of the Feather River canyon and replace it with a new route through the mountains.

Cover Story—Red China lays rail at a record pace p.34

Communist China is outpacing the rest of the world in the rate at which it is building railroads. When the country's present Five-Year plan is completed, its rail lines will be about as extensive as those of the Canadian National.

Cover Story—Journal-box debate continues p.41

Today's biggest operating problem, says Santa Fe President Marsh, is the hotbox. The subject, and its possible cures, were discussed with much intensity at the recent meeting of the AAR's Mechanical Division.

City-run trains are proposed p.54

Under a new plan revealed by Philadelphia's Mayor Dilworth, the city's 12 commuter lines would be operated by a nonprofit city corporation.

3,000 new L&N cars will roll on Southern cast steel wheels

Shown above is one of a record-breaking order for 3,000 Louisville & Nashville cars, rolling out of the Bessemer, Alabama, shops of Pullman-Standard Car Manufacturing Company. All of these modern new hopper cars will be equipped with Southern cast steel wheels.

More and more roads are continuing to specify Southern cast steel wheels for new cars and for maintenance. Southern cast steel wheels are easily bored and mounted. They are precision machined—hubs, bores, flanges, treads—and are delivered in three tape sizes or less.

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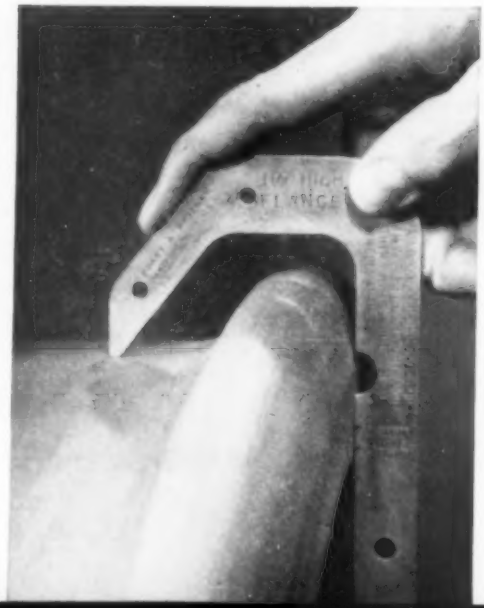

Week at a Glance CONT

Current Statistics

Operating revenue	
5 mos., 1959	$4,126,075,254
5 mos., 1958	3,743,065,625
Operating expenses	
5 mos., 1959	3,229,846,917
5 mos., 1958	3,105,437,309
Taxes	
5 mos., 1959	438,663,308
5 mos., 1958	349,275,298
Net railway operating income	
5 mos., 1959	324,696,605
5 mos., 1958	166,173,746
Net income, estimated	
5 mos., 1959	247,000,000
5 mos., 1958	75,000,000
Average price railroad stocks	
July 14, 1959	115.15
July 15, 1958	81.73
Carloadings revenue freight	
Twenty-seven wks., '59	16,726,837
Twenty-seven wks., '58	14,764,461
Freight Cars on order	
June 1, 1959	36,869
June 1, 1958	30,386
Freight cars delivered	
5 mos., 1959	14,322
5 mos., 1958	27,138

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The Action Page p.58

Slow motion on paint—A simple price change proposed by eastern railroads for hauling paint has been delayed by the ICC for 13 months. In any other business, a decision to make such a change would be reached one day and become effective the next.

What's "out-of-pocket" anyhow?—The Southern Pacific has performed a signal service in clarifying the difference between "out-of-pocket" and "fully distributed" costs.

Short and Significant

First all-aluminum hopper cars . . .

have been conditionally approved by the AAR for immediate interchange service on U. S. roads. Designed by Aluminium, Ltd., the welded cars first went into service two years ago hauling bauxite for that company. The Roberval & Saguenay is currently using 30 cars. Eight tons lighter than comparable steel cars, they have a payload-to-deadload ratio of more than 5 to 1.

Credit-card companies . . .

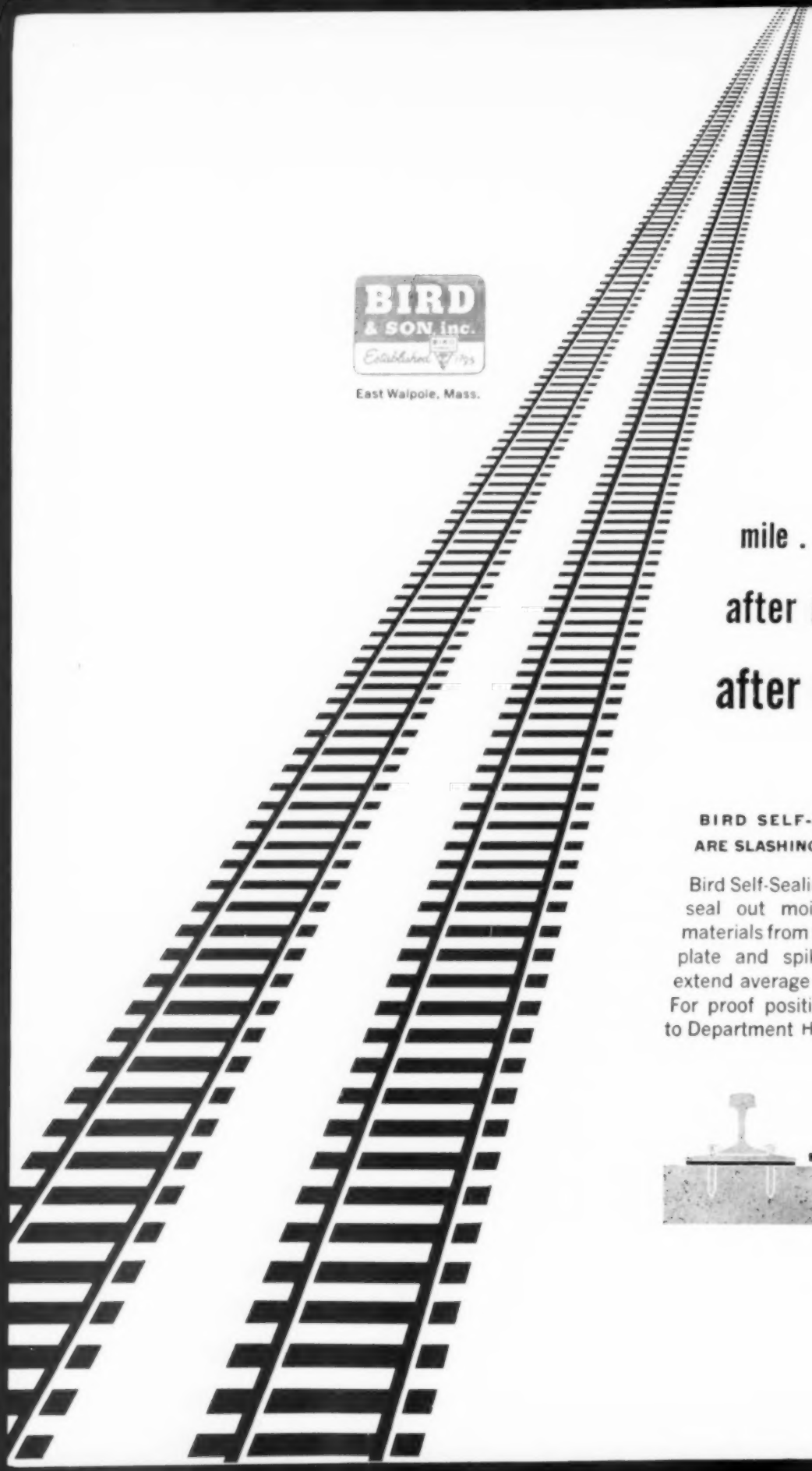
have not succeeded in wooing anybody but the New York Central System away from the Rail Travel Credit Agency. NYC-P&LE-B&A will withdraw from RTCA Sept. 30, after signing up with American Express effective July 1. RTCA's other 54 member roads will continue with the agency, a Rail Travel spokesman said following a meeting in Chicago last week.

Railway Express reorganization . . .

has been approved but not without the withdrawal of one major carrier. Chicago & North Western joined in voting for the proposed changes in the agency contract, but indicated that "subject to the approval of the executive committee, it will in due course discontinue its participation in REA as an owning and contract road." An earlier withdrawing member, NYC, also approved the contract and indicated that it would rescind its withdrawal.

Four railroad chief executives . . .

will serve on the U. S. Chamber of Commerce's 48-member transportation and communications department committee for 1959-60. They are Chairman A. Lee M. Wiggins of the Atlantic Coast Line and Presidents W. Arthur Grotz of the Western Maryland, Robert S. Macfarlane of the Northern Pacific and P. M. Shoemaker of the Lackawanna. Railway Express Agency President William B. Johnson is also on the committee.



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Steel Strike: How RRs Are Hit

► **The Story at a Glance: The steel strike last week threw thousands of railroad employees out of work—and raised the possibility of big revenue losses for a major segment of the industry.**

A dozen big carriers of steel—and related coal and ore traffic—foresaw traffic losses ranging from 5% (C&O) to 90% (Union) as a result of the steel shutdown.

While negotiations continued to raise a faint hope that the strike would be settled quickly, the immediate effect of the strike on many roads was a general belt-tightening. Fewer trains were operated, and there were some cuts in maintenance programs.

Some roads felt that total steel traffic for the year would not show a net loss—if the strike lasted no more than four weeks. Other roads, already operating on slender profit margins, were more concerned with the immediate loss of income.

Railroads hardest hit by last week's steel strike were those linked most closely to basic steel—the ore haulers, the lines with a heavy volume of iron and steel traffic, and the coal carriers with large steel customers. These roads seemed likely to be big losers whether the walkout was short or long.

For most other roads, the impact of the strike could well depend on the length of time the mills are closed. Most roads agreed that the walkout was, as one put it, drying up the traffic "like your lawn after a three-week dry spell."

Many traffic men, however, took the optimistic view. They noted that there had been a lot of steel movement in advance of the strike as manufacturers built up inventory. Even if the strike were prolonged to the point where steel users had to cut back production, the traffic men foresaw heavy buying when the steelworkers go back to work. From a long-range standpoint, no great traffic loss was anticipated.

The probabilities as to strike duration were causing the most concern last week. Traffic was down, but a large part of the car building and repair programs were continuing. On some roads, maintenance that had picked up this spring after having been deferred during the '58 slump, was being deferred again.

With fewer trains running, some crews and other operating personnel received furlough notices. From a financial standpoint, though, repair programs will probably suffer most if operating revenues are depressed for the duration of a long strike. The road-by-road picture:

● **Union Railroad:** This Pittsburgh road expects a decline in carloadings of 90% (about 9,000 cars a week) as the steel strike continues. Locomotive repairs have been stopped, and about 2,000 of the total work force of 3,100 are subject to furlough. Union has enjoyed, prior to the strike, "terrifically heavy business," and feels that it could take a four-week strike without any great loss. A longer strike, though, would be more serious. (One bright spot: Union is taking advantage of the big drop in traffic to take care of some track and bridge work that is difficult to schedule with operations normal.)

● **Bessemer & Lake Erie:** Like its sister road, the Union, the B&LE expects a major drop in traffic: down from a normal average of 8,000 cars a week to 2,000 cars a week—a decline of 75%. B&LE is furloughing "some" employees; how many will depend on the length of the strike. At present, the road is continuing to repair cars and maintain track at the normal rate. If the strike lasts more than four weeks, though, the road might have to make more substantial layoffs.

● **Pittsburgh & West Virginia:** Traffic is down on the P&WV almost 30% from the normal 500 cars a day, but revenues are off 45% (because of the high percentage of originating and terminating traffic). Some train crews have been furloughed, but the road expects to take advantage of the period of light traffic to catch up on a considerable amount of track work. President R. N. Shields is not pessimistic about the long-term effect of the strike.

Here's What Happened in 1956

The AAR's Bureau of Railway Economics last week put out the following appraisal of the steel-strike situation, based on the effects of the last big steel strike:

"During July and the first week of August 1956 (when there was a steel strike) carloadings were about 800,000 less than they apparently would have been had normal seasonal trends prevailed. At least 750,000 cars of this loss, or 150,000 cars per week, appeared to have been attributable directly to the steel strike. The weekly loss broke down as follows: 70,000 cars of ore, 20,000 cars of coal, 8,000 cars of coke, 50,000 cars of miscellaneous freight.

"The loss of 150,000 cars a week represents a revenue loss of about $40 million in gross. Employment in July 1956 was about 30,000 less than a seasonal normal. The average railroad employee now earns a little less than $120 per week. Thus the loss in payroll would mean about $3,500,000 weekly. [Presumably, the loss in jobs this year would not be as great as in 1956. Total railroad employment has dropped about 200,000 since 1956. Thus, there is today a tighter situation, fewer jobs to cut.]

"In connection with the decline in coal traffic, much of the 20,000-car weekly loss would be related to the steel strike indirectly, as the mills consume only about 3,000 to 4,000 cars a week. The additional loss is probably explained by the fact that when the ore mines close down, the lake movement (which includes lake-cargo coal as well as ex-lake iron ore) stops in both directions."

"When the steel strike ends," he said, "we'll see a tremendous surge of traffic that will last several months." Even a two-month strike, he added, should leave the railroads no worse off then if there had been no strike, since the steel mills now have the capacity to produce in ten months a year's supply of steel, and he expects that there will be no net loss in 1959 steel production. Although the P&WV will suffer an immediate drop in revenues, Mr. Shields expects the road to operate in the black for the year.

• **Elgin, Joliet & Eastern:** With the steel industry supplying slightly less than half of the EJ&E's total business, effects of the strike are immediate—on traffic, revenues and employment. Anticipating the shutdown, the road served five-day notices on about 1,000 employees before the strike. About 20% of the work force, mostly in maintenance of way and maintenance of equipment, is affected.

• **Pennsylvania Railroad:** Roughly 20% of the Pennsy's business is in steel or steel-related products, and the road is already feeling the effects of the strike. Some 6,200 workers have been furloughed (about 1,000 in M/E, 1,200 in M/W, 3,500 in transportation and train crews, and 500 miscellaneous workers). This is a smaller percentage of the road's total work force than in past strikes, largely because employment was already at a low level when the strike started. The Pennsy, like many other roads, has had some increase in traffic in anticipation of the strike, and expects another boom when the strike ends. The road is continuing its car program, for which it has enough steel on hand for "quite a little while."

• **New York Central:** A Central spokesman commented: "A steel strike on top of the coal miners' holiday will have a serious effect on the New York Central's business volume. However, we intend to continue our shop program of building new cars and upgrading old cars. Some projects in our equipment program will be deferred (for example, certain types of special freight cars not needed due to the strike will not be repaired). Our regular maintenance of way program will be continued, but some special projects will have to be deferred. Our CTC program will be continued." On employment, the Central points out that with fewer trains, less people are required, and that "over-all, several hundred people might possibly be affected by a prolonged strike."

• **Lehigh Valley:** Because Bethlehem Steel is one of the LV's biggest shippers and iron and steel products account for close to 10% of the road's traffic, the LV is seriously affected by the strike. "The longer the strike lasts, the more serious will be the effect on our net income," a road spokesman commented, adding that the road has been in the black for only one month so far this year. With fewer trains and the likelihood of more deferred maintenance, the LV is furloughing some employees.

• **Erie:** "A temporary decline in loadings" is expected, the Erie says, but if the strike lasts less than six weeks, the road doesn't expect any net loss in the year's total steel traffic. Erie is laying off 225 employees in the Youngstown area and may have to lay off more if the strike is drawn out. Car repair shops at Meadville, Pa. are closed in July for a three-week vacation. When they will reopen depends on the length of the strike.

• **Baltimore & Ohio:** The B&O an-

(Continued on page 47)

Watching Washington *with Walter Taft*

• **CONSTRUCTION RESERVE** arrangements for railroads will remain hard to win this year, but there is hope for some income-tax relief in the way of shorter depreciation terms for railroad property. The latter proposal calls for maximum depreciable lives of 15 years for rolling stock and 20 years for fixed property.

BILLS to amend the Internal Revenue Code and make this a "special rule for railroad corporations" are pending before the House Ways and Means Committee. Washington representatives of the railroads think the idea may be sold to legislators reluctant to go along at this time on the more liberal construction-reserve plan.

THE SHORTENED TERMS would be available to the railroads on an optional basis. Rolling stock, to which the 15-year term could be applied, is defined in the bills as cars, locomotives, floating equipment, work equipment and "miscellaneous equipment." The 20-year term could be applied to all other property.

PRESENT TERMS average about 25 years for rolling stock and 40 years for fixed property. Thus, the annual depreciation rates are about 4% and 2½%, respectively. Under the proposed legislation, they could become something like 6.7% and 5%.

WRITE-OFFS would end, of course, after the shortened terms expired—even though the property remained in service. That was the situation after the end of the five-year write-off periods authorized by the so-called fast-amortization arrangements of World War II and the post-war years.

• **COMMUTER SERVICE SUBSIDY** proposal is now before the Senate's Surface Transportation Subcommittee. It was submitted by President George Alpert of the New Haven at hearings on pending bills to tighten service-abandonment provisions of the 1958 Transportation Act.

THE PASSENGER DEFICIT won't be solved by enactment of those bills, Mr. Alpert advised. He urged the subcommittee to sponsor his proposal instead. It is embodied in a bill which he calls an "operating differential subsidy bill." Its plan for federal assistance to railroads is like that already provided for steamship lines.

THE ICC would administer the plan, making contracts with railroads for the operation of commuter services. The Commission would determine the fares, schedules and equipment, and the railroads would be reimbursed for deficits incurred from operations on the contract basis.

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Strike Insurance Plan Revealed

► **The Story at a Glance: Railroad strike insurance, just wishful thinking a few months ago, may soon be a reality.**

The carriers have the plan: A "service interruption" insurance policy providing for a pooling of industry funds through which struck railroads will be indemnified for their fixed charges.

If enough roads file application for the policy (and it's considered a good bet that they will), the industry will have its first real protection against the divide-and-conquer tactics which labor has successfully used in the past. Target date for the start of the program is Aug. 15, two and a half months in advance of the expiration of existing union contracts.

The railroad industry last week reemphasized its determination to hold the line on wages and roll back the featherbedding provisions in existing union agreements. For the first time, the industry may enter contract negotiations armed with the means to withstand brotherhood strike pressures.

Essentially, railroad strike insurance is a defensive weapon, similar in intent —but not in operation—to the mutual security agreement worked out last fall by six major airlines. The airline pact provided for revenue-sharing, with payment to a struck line to help make up for lost profits. The railroad plan provides for premium payments to an established insurance company and benefit payments to struck roads to cover their fixed charges. No benefits would be available to cover lost profits.

Great Northern President John M. Budd called the plan "just an attempt by the railroads to put themselves on equal terms with the unions . . . It's been pretty rough going into contract negotiations with the unions pitting their full strength against a few selected railroads."

The carriers' greatest difficulty in bargaining, he said, has been union unwillingness to accept emergency board recommendations.

"The unions have used these recommendations as a starting point and have gone on from there, using all of their economic strength against a few railroads to bring about a settlement better than the recommendations," he declared.

The underwriter in the present plan would be Imperial Insurance Co., Ltd., of Nassau, the Bahamas. Imperial was organized last year under the laws of the Bahamas and the railroad policy "shall be construed pursuant to the laws of the Bahama Islands." The company itself is closely associated with Lloyd's of London (Imperial's principal directors are reported to be two important underwriting members of Lloyd's and they, along with one of the outstanding insurance brokerage firms at Lloyd's, are the major shareholders).

Most of the control of the plan rests with Imperial. In practice, a three-man advisory board (top officers of the Eastern Railroad Presidents Conference, Association of Western Railways and Association of Southeastern Railroads) would have administrative duties—but those duties may easily be transferred to the insurer.

Establishing the plan out of the country, it's believed, will immunize it against U.S. court action which unions might institute.

Moreover, there's a provision that any insured road may settle a strike dispute at any time—a setup apparently designed to protect the program against charges of Railway Labor Act or antitrust violation.

Benefits

Rail strike benefits, payable for up to 365 days during suspension of operations caused by a single strike, would be based on a daily indemnity formula covering nine principal cost items:

- Ad valorem and other taxes on railroad property not based on revenue or income.
- Fixed interest on debt (less the part apportionable to non-carrier property).
- Mandatory payment into sinking funds provided for in mortgages on the carrier's property.
- Interest or dividends on equipment trust certificates or conditional sales agreements.
- Payments on the principal of equipment trust certificates or conditional sales agreements or rents under leases or trackage agreements covering property used in operations.
- Insurance on property or operations (exclusive of the strike insurance).
- Pensions and payments into pension funds.
- Contractual or fixed obligations incurred in connection with carrier operations.
- Cost of the "supervisory, official and other forces necessary in [carrier's] opinion" to preserve the road's properties in a standby condition and effect resumption of service.

For this protection, insured carriers would pay minimum premiums designed to yield $150,000 to the insurance company for its handling of the program. Additional premiums would be payable when and if insurance payments must be paid to a struck carrier. In any event, a carrier's maximum premium for any year would be limited to 20 times its daily indemnity figure.

In addition, all insured carriers would be required to deposit and maintain throughout the life of the policy an amount equal to one day's indemnity. The policy stipulates that the money shall be deposited in a Nassau bank under arrangements permitting the insurance company (but not the insured carrier) to draw upon it.

There are certain limitations written into the plan. Initially, railroads accounting for 65% of the industry's gross operating revenues must sign up to permit the program to go into effect (the 65% figure must be maintained on each policy anniversary date). In addition, roads accounting for 50% of total gross operating revenues must be covered at all times, or the policies may be terminated.

Benefits would be paid to struck carriers until and unless the total exceeds 50% of the total daily indemnities of all insured roads. Payments would also stop in the event the government assumes control of a struck carrier.

Benefits would be payable when a union strikes to enforce its demands or to resist management proposals, provided the walkout is:

- Contrary to provisions of the Railway Labor Act.
- An attempt to enforce demands contrary to the recommendations of an emergency board.
- An attempt to resist application of emergency board recommendations.

Other Conditions

A road would also be eligible for benefits if demands—made by either union or carrier—may affect companies representing more than 50% of the total insured railroads' daily indemnities. This provision applies (a) if an emergency board has not been appointed; or (b) if an existing board has failed to make definite findings or recommendations.

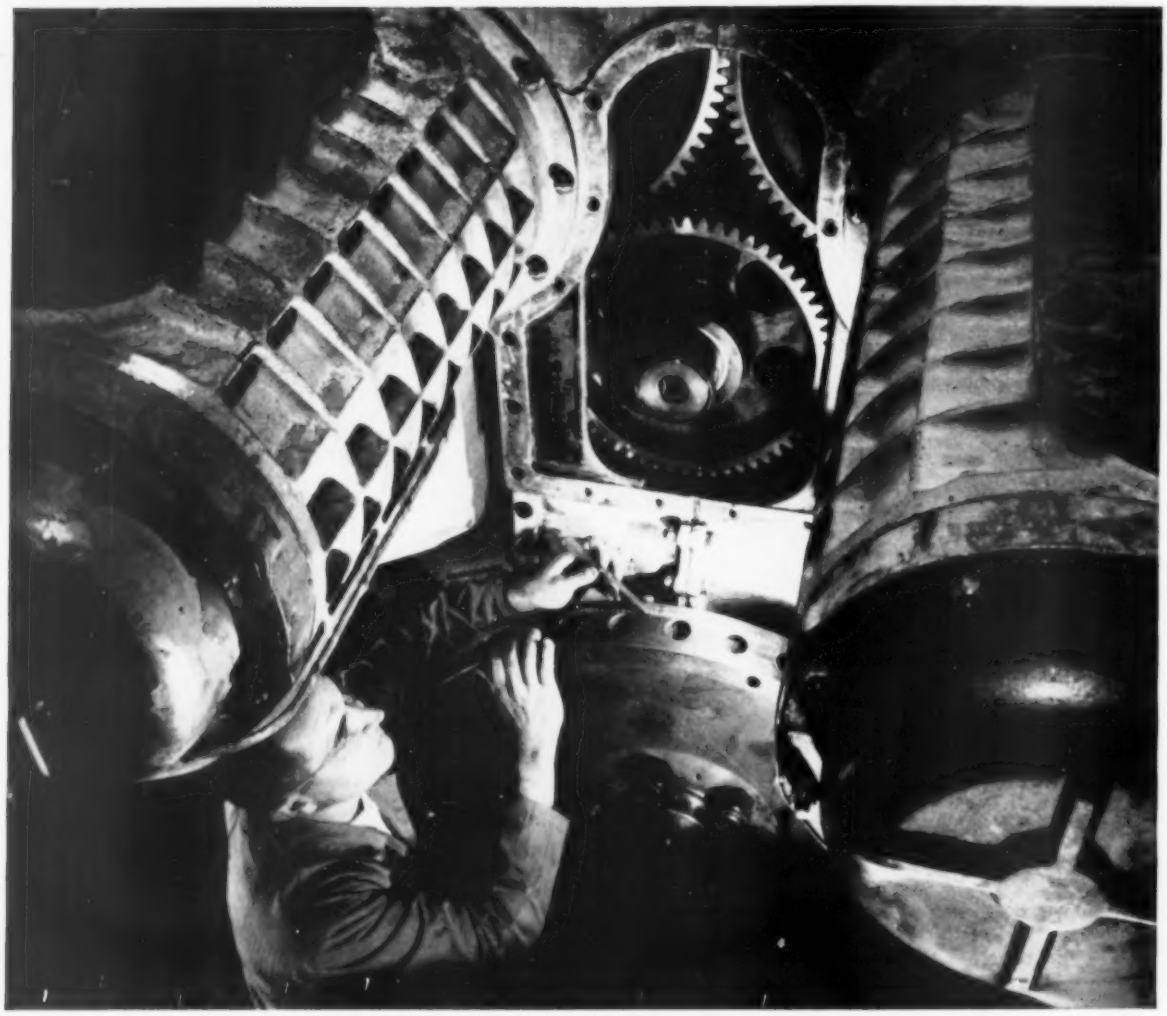
Most of the limitations don't appear to worry railroad men. The plan is reported to have won wide support already. If it becomes effective, unin-

(Continued on page 55)

ENGINEER'S FIELD REPORT

PRODUCT RPM DELO OIL RR

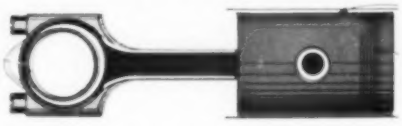
FIRM NORTHERN PACIFIC RAILWAY
South Tacoma, Wash.



RR diesel gears show only ½° wear in 2½ million miles

Timing gears on this Northern Pacific GMC-diesel locomotive engine, lubricated with RPM DELO Oil RR, recently completed 2½ million miles of severe freight service without repairs or adjustment. NP's South Tacoma Shop Foreman, A. R. Genin (above), indicates degree marks on engine flywheel, used to gauge gear wear. Tolerance between gear teeth shows variance of just ½° from original setting. Mr. Genin says, "We consider this low rate of wear remarkable for heavy-duty freight operation. It is typical of our experience during the 12 years we have used RPM DELO Oil in all our locomotive diesels." Engines are 1350 h.p. 16-567 series.

Why RPM DELO Oil RR reduces wear, corrosion



• Oil stays on engine parts—hot or cold, running or idle • Anti-oxidant resists lacquer formation • Detergent keeps parts clean • Special compounds prevent corrosion of bearing metals • Inhibitor resists foaming.

For More Information about RPM DELO Oils or other petroleum products of any kind, or the name and address of your nearest distributor, write or call any of the companies listed below.

LUBRICATING OILS RPM DELO

TRADEMARKS "RPM DELO" AND DESIGN REG. U. S. PAT. OFF.

STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20

THE CALIFORNIA OIL COMPANY, Perth Amboy, New Jersey

STANDARD OIL COMPANY OF TEXAS, El Paso

THE CALIFORNIA COMPANY, Denver 1, Colorado

War-Readiness Hearings Begin

Representatives of the railroads and their suppliers will be in Washington next week to tell a House armed services subcommittee about the present status of the industry, its potential future development, and its ability to perform in the event of mobilization.

The presentations will be made at hearings conducted by the subcommittee on adequacy of transportation in event of mobilization, which is headed by Rep. Paul J. Kilday of Texas.

The hearings got under way last week with a presentation from John J. Allen, Jr., undersecretary of commerce for transportation. Other government officials, including Chairman Tuggle of the ICC, were scheduled to follow him. This week's schedule calls for executive sessions at which representatives of the armed forces will be heard.

Mr. Kilday opened last week's sessions with a statement saying the inquiry was launched because "it has become a matter of grave concern whether the country's transportation system is capable of doing as well as it did in World War II under conditions which might rise in view of the changing character of mobilization concepts."

Mr. Kilday emphasized that the hearings are "in the nature of a study and are not based on any existing or planned legislation." He added: 'Whether the outcome will suggest or indicate the need for any legislation will have to be demonstrated."

The lead-off statements in the railroad presentation are expected to come from President Daniel P. Loomis and Vice-President P. A. Hollar of the AAR. Executives of several roads are also scheduled to appear. The supply industry will be represented by Railway Progress Institute, whose president, Holcombe Parkes, is expected to make a statement.

The importance which the railroads attach to the inquiry is indicated by a "background memo" distributed to the press by AAR Vice-President J. Handly Wright. The letter of transmittal called the subcommittee's sessions "a significant series of hearings." President Parkes of RPI has called the hearings "one of the most significant opportunities which the RPI has ever had to perform a service in the public interest."

The AAR memorandum explained how the impact of war places a heavy burden on railroads and said the railroads possess "unique advantages over other carriers." It listed several of these advantages, including flexibility and expansibility, economic use of resources, durability and recuperability, and mobility of operations.

To indicate how railroads "are preparing to meet the test," the memorandum cited dieselization and expenditures made since World War II on new cars and signaling and communications systems.

"Problem areas" were identified by the AAR as the "increasing competition by tax-free, public-supported forms of transport," and the lack of an equipment surplus like that available when World War II broke out.

The memorandum closed with a "blueprint for action to enable railroads to meet the test." This set forth the industry's legislative program which calls for tax relief, more freedom to operate other forms of transport, imposition of adequate user charges on publicly-provided transport facilities, and repeal of the Motor Carrier Act's so-called agricultural exemptions, or extension of like freedom from regulation to the same agricultural products when they move by rail.

Other segments of the transportation industry will also be heard from at next week's hearings. These include American Trucking Associations, Air Transport Association, and American Waterways Operators, Inc.

Undersecretary Allen's presentation last week was a statement dealing with the present state of the national transportation system. It was, as he put it, "'general in nature," and it set forth a general conclusion that "the transportation plant will be able to supply essential transportation to support the national defense effort."

Mr. Allen foresees that "there may be shortages, as there were in World War II," and he mentioned "trouble spots," including "the railroad industry" and "the air cargo problem." That part of his statement which discussed the railroads closed with this comment:

"Although the railroad plant has been expanded in the postwar period to handle a year-to-year volume of traffic much above the pre-World War II level, rail capacity to meet a great expansion in event of emergency is less than in the case of certain other modes of transportation."

Meanwhile, highway transportation appears to Mr. Allen "to have suitable capacity for meeting expanded transportation needs." He said about the same of the inland waterway industry.

New York Central: Hauling Air

NYC President A. E. Perlman uses an enlarged photograph of a "rush-hour" train on the Central's River (West Shore) Division to make a point before the Senate Surface Transportation Subcommittee (RA, July 13, p. 46). Mr. Perlman called for preservation of Section 13a of the Transportation Act of 1958, giving the ICC wider powers over discontinuance of money-losing trains. The NYC, which claims it is losing $3,100 daily on its 23 River Division trains carrying a total of 155 regular commuters has filed notice of discontinuance with the ICC, under Section 13a provisions. New Jersey is protesting the move.

maintenance-free
ALUMINUM INNER-LINERS
reduce costs...cut dead weight... install quickly...lengthen car life

Now under intensive testing on the B&O, Reynolds Aluminum Inner-Liners promise major reductions in installation and maintenance costs

Reynolds new aluminum inner-liners offer freight operators three important benefits: they upgrade and extend car life, and cut maintenance costs.

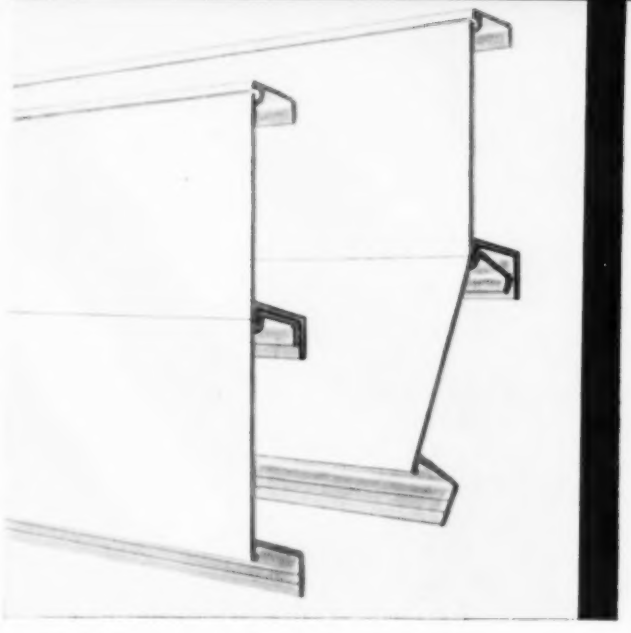
Because aluminum does not rust, and resists corrosion, these new inner-liners need no surface preparation or protection. There is no need for costly coatings required by other metal inner-liners. Expensive replacements are eliminated due to the long life of aluminum inner-liners. Designed in tough 6063-T6 alloy, Reynolds inner-liners take all the hard knocks and loading abuse that daily service offers. Light weight, a 40-inch high inner-liner for a 40 foot car weighs only 1,200 pounds—1,800 pounds less than a comparable steel inner-liner.

Made of 9" inter-locking extruded panels for fast, simple assembly, these inner-liners can be quickly disassembled and re-installed in other boxcars. Reynolds Aluminum inner liners are available in various heights and thicknesses to meet a wide range of shipping, loading and freight requirements.

Durable and maintenance-free, they're a money-saving, lifetime investment. Light, strong, rustfree Reynolds Aluminum can also effect important savings in baggage car and box car doors, floors and floor racks, roofs, crossmembers, crossbuck and operating signs. For details, contact your local Reynolds office, or write to the *Reynolds Metals Company, Box 2346-TM, Richmond 18, Virginia.*

Watch Reynolds TV show—"**WALT DISNEY PRESENTS**"—every week on **ABC-TV**

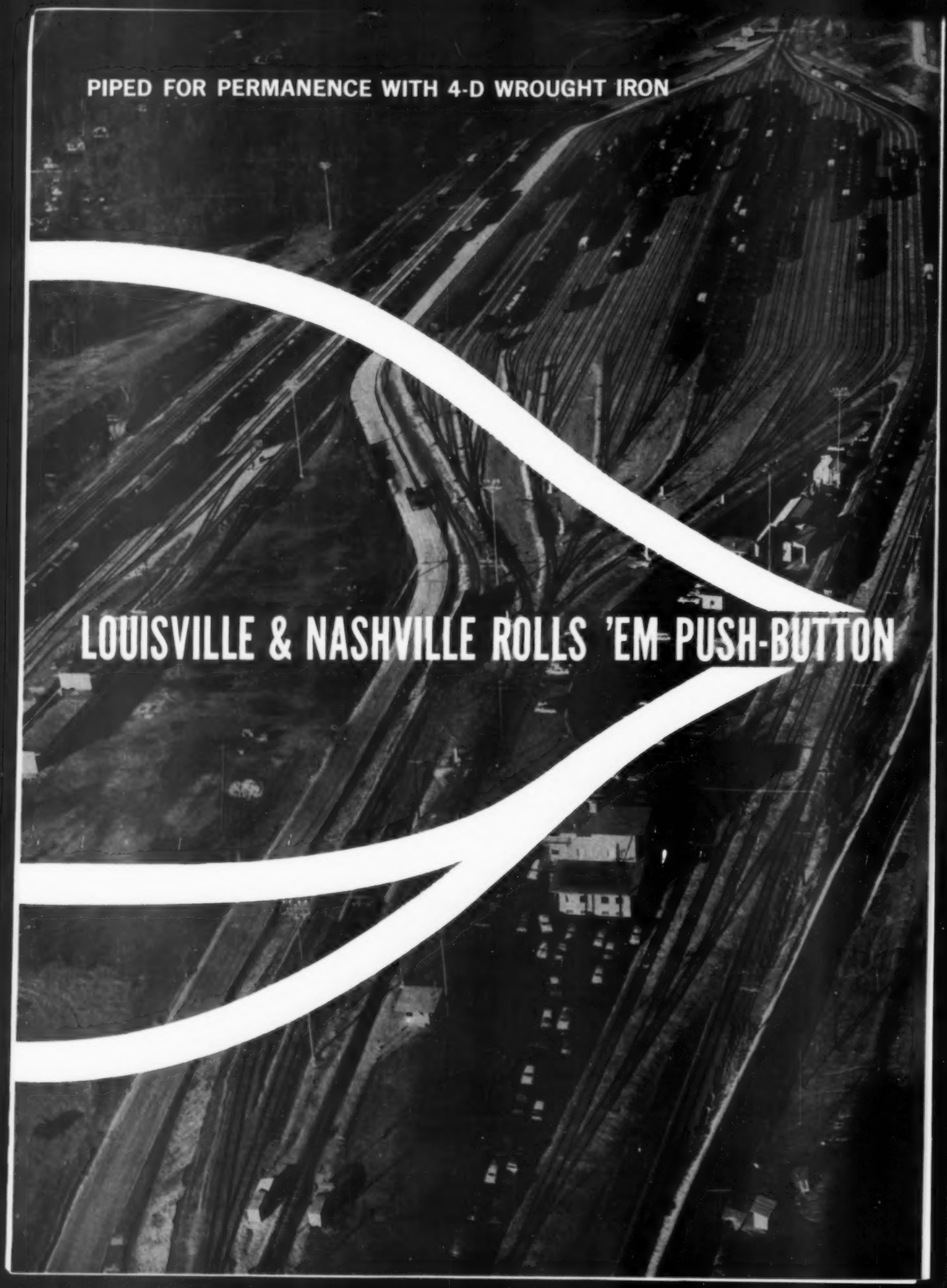
REYNOLDS ALUMINUM



Reynolds Aluminum Inner-Liners are designed to take the daily pounding of normal loading and unloading. Accidental bumps and jars by fork-lift trucks won't hurt these tough liners—and scratches made during loading operations never leave an opening for rust or corrosion—because aluminum *cannot rust!*

The Finest Products Made with Aluminum are made with REYNOLDS ALUMINUM

Easy to install, Reynolds Aluminum Inner-Liners replace the inside wood wall and are assembled quickly in panels. Attached to the vertical side posts, these panels provide a flush fit with the remaining interior wall.


PIPED FOR PERMANENCE WITH 4-D WROUGHT IRON
LOUISVILLE & NASHVILLE ROLLS 'EM PUSH-BUTTON

L & N uses nearly 100 tons of 4-D Wrought Iron here to counter constant vibration and corrosive attack: in car retarder piping, oxygen and acetylene lines, oil lines and air lines.

It takes tons of quality piping to run a railroad.

Just *any* piping won't do. Especially when there's corrosion to combat. Fatigue stresses to check. And cost per foot per year to consider.

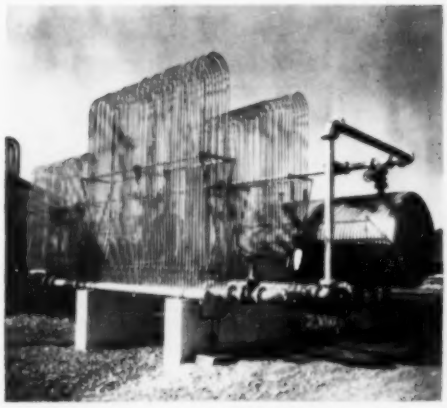
All of these things considered, the L & N chose 4-D Wrought Iron Pipe. The L & N should know. They spent almost $10 million on their new classification yard in Boyles, Alabama. It's efficiently modern. Materials of construction are top-notch.

In addition to the common-sense outlay for 4-D Wrought Iron Pipe, here are some broader areas of the L & N investment: a receiving yard of seven tracks, holding a total of 996 cars; classification yard of 40 tracks, holding 1,509 cars; a departure yard of 10 tracks, holding 1,232 cars; storage tracks, 65 in number, holding 2,348 cars.

4-D's pure base metal is laced with countless thousands of glasslike iron silicate fibers to give it excellent resistance to corrosion and fatigue stresses. Put this money-saving metal to work on your road. Our booklet, *Wrought Iron for Railroads* tells you where and how. Write for your copy. A. M. Byers Company, Clark Building, Pittsburgh 22, Pennsylvania.

STYLE IN NEW $10-MILLION CLASSIFICATION YARD

Hopper leaving master retarder in L & N's Boyles Yard on its way to the classification yard. 4-D Wrought Iron Pipe, running through the middle of the track, springs the retarders into action to slow freight cars. 4-D Wrought Iron galvanized compressed air lines run outside the retarders.



Cooling tower piping was fabricated from galvanized 4-D Wrought Iron Pipe. 4-D Wrought Iron air retarder air line pipe runs also lead to this tower. Corrosion-resistance and an ability to form leak-proof joints were cited as 4-D Wrought Iron's spec-winning qualifications.

◀ View from the air of Louisville & Nashville Railroad's new Boyles Yard near Birmingham, Ala. shows classification yard and several of the main buildings.

BYERS 4-D WROUGHT IRON

CORROSION COSTS YOU MORE THAN WROUGHT IRON

Now: Electronic Reservations

► **Story at a Glance: After three years of design, development and testing, a pushbutton electronic reservation system known as Magnetronic Reservisor has now been installed on three railroads. The Santa Fe has placed in operation this pushbutton train reservation system which automatically clears and reserves Pullman space and chair car seats in a matter of seconds. The New Haven has, for some time, been operating its Teleregister system in tandem with its manual reservation system at New York, preparatory to going into full-scale electronic reservations. Some of this reservation system equipment has been installed on the New York Central for training and testing.**

Designed by the Teleregister Corp., the electronic equipment known as the Magnetronic Reservisor cuts from a day to seconds the amount of time required to make typical round-trip transcontinental train reservations. Santa Fe is the first railroad serving the Pacific Coast and Gulf of Mexico to adopt the electronic device.

Reservations on all Santa Fe streamliners after September 15 are now being made and confirmed by this fast new system. Reservations for days prior to September 15 are being handled in the usual way.

Reservation personnel in Chicago, Kansas City, Mo., Ft. Worth, Texas, Los Angeles and San Francisco, Calif., now have immediate access to the system's central electronic equipment. Thus, automatically, they are able to keep track of all reserved accommodations. Ticket agents in Santa Fe-served cities not yet cut in on the electronic network may determine quickly through the city nearest them so equipped, whether or not space requested by a passenger is available.

The equipment consists of a series of computing machines at Chicago on which all space is stored on a magnetic drum. Reservation personnel on the electronic network at Chicago, Kansas City, Ft. Worth, Los Angeles and San Francisco have access to the information on these drums by operating specially designed key sets on the counter at their fingertips. These "push-button" devices can handle up to 11 separate types of transactions, ranging from a simple check on the availability of particular space to the selection of adjoining accommodations in the same car.

When a passenger requests space, the ticket agent inserts a special coded "destination plate" in a slot at the top of his key set and depresses "departure date" buttons. In a matter of seconds he receives a printed response. If the passenger buys his ticket immediately, the agent depresses a "sale" button which deletes this accommodation from the available space stored on the "memory" drum.

If the space is later cancelled, the agent can similarly restore the accommodation to the inventory. This automatically assures preference being given to passengers highest on a waiting list.

"In other words," Ernest S. Marsh, Santa Fe president, said, "a passenger can secure confirmation of his reservation in little more than the time it takes for him to light a cigarette. The application of electronic efficiency to the handling of Santa Fe passenger reservations is one of the most significant contributions to customer service since the introduction of lightweight, streamlined equipment."

The New Haven is now storing all reservations beyond July 31 on the Magnetronic drum which is located in its data-processing center at Grand Central Terminal. Reservation and ticket personnel have been receiving instruction in the use of the new push-button equipment. Present plans provide for gradual integration of the new method with complete system-wide service scheduled for the last quarter of 1959. The New Haven's data processing center at New York serves all of its principal stations through a communication network providing direct immediate access to the inventory of available space. When in full operation the New Haven's reservation bureaus will receive telephone calls over the latest storage-type telephone equipment and will process all space requests electronically.

The New York Central has not yet "accepted" the Centronic system (their name for the Teleregister reservation system). However, some of the equipment has been installed for training and testing. Ticket clerks' pushbutton units can be seen behind the counters in Grand Central Terminal.

Gilbert Backs One-Union Plan

BLF&E President H. E. Gilbert is looking beyond amalgamation of engine service brotherhoods to a merger of the five operating unions. Economics will dictate unity, he told delegates to the Firemen's 37th convention in St. Paul, Minn.

"There are those who can see the day when the five organizations that now represent less than 250,000 railroad operating employees will become one," he said. "I agree with that proposition because the economic realities of life dictate it. Train and engine service employees are now asked to support five separate grand lodges. Hardly a month passes than two or more carriers reveal that they are thinking about merging and eventually do so. Where does that put labor? It leaves us with less employees still supporting five organizations . . .

"The day has long passed when rail labor could afford the luxury of one organization for each craft. Perhaps when more than 2,000,000 workers were in the industry it was the part of wisdom to maintain separate organizations. But now, with a work force of less than 900,000, the advisability of continuing five operating unions gives rise to thought-provoking questions."

As for the forthcoming round of BLF&E contract negotiations, President Gilbert warned delegates against (a) complacency and (b) defeatism.

He reviewed recent contract settlements in Canada and added:

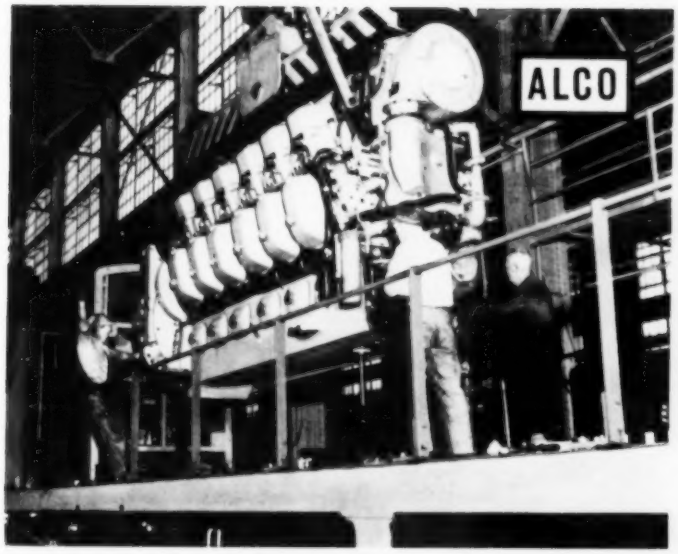
"Many things disturb me about the events in Canada, but the most upsetting factor—I meet it almost daily—is the prevailing thought among our members in the United States that a similar situation cannot develop here. True, the ground rules will be different, but our opponents will be just as formidable and will use every means to drive us down to defeat. We cannot afford to hide from reality."

Mr. Gilbert noted later that "many members are discussing the battle we face after Nov. 1. That is good, but I have heard a few take the position that we should forego pay increases, in favor of retaining our jobs.

"That does not represent my thinking.

"There is no reason in the world why this Brotherhood cannot successfully progress a wage and rules movement that will improve the economic status and enhance the jobs of the men we represent."

BLF&E general committees have demanded a 14% wage increase, plus a liberalization of the cost-of-living escalator clause (RA, June 15, p. 7; July 6, p. 41).



POWER-ASSEMBLY INSPECTION REPORTS
FROM MAJOR RAILROADS REVEAL:

top-deck overhaul period lengthened to three years, even four, with ALCO 251 diesel

TESTS PROVE WEAR-RESISTANCE

RAILROAD A: After 168,500 heavy-duty freight miles in 31 months, inspection shows only slight wear to ALCO 251 engine

An ALCO DL-701 locomotive with the 251 diesel was checked for the first time after 31 months of heavy, slow-speed freight service and an accumulation of 168,500 miles. Engine was standard twelve-cylinder 251 with oil-bath, air-intake filter on the turbocharger.

RING WEAR (Compression-ring gap clearance) – Maximum of all rings was 35% of permissible wear. The average for #1 rings was found to be less than 25% of permissible wear. The #2 rings averaged 14% wear. The #3 rings averaged 10%.

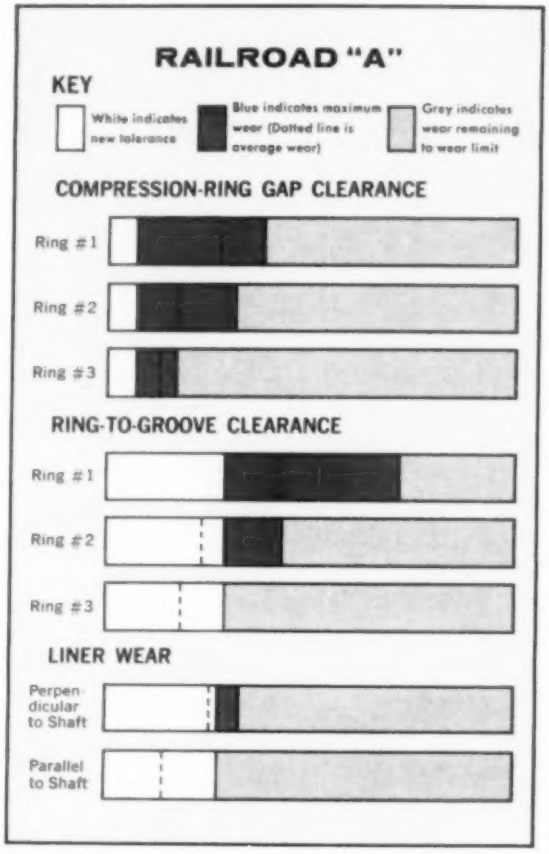
PISTON AND RING WEAR (Compression-ring-to-groove clearance) – Of the #1 rings: one had 65% wear, another 60%, while the rest showed less than 50% wear. The #2 rings were all within 0.001 in. of new tolerance range. The #3 rings were all well within new tolerance range.

LINER WEAR (Out-of-roundness) – Four liners showed 22% of allowable wear from base diameter. All the other eight measured less.

OTHER ITEMS – Crankpins and journals: no wear. Main and connecting rod bearings: none worn through the overlay. Wrist pins and bushings: all re-used. Valve and valve seats: only slight wear. Gears: no measurable wear. Camshafts: no wear. Water pump: no leakage and only normal wear. Water side of block and liner: no marks, no leakage. Fuel pumps and nozzles: all good.

CONCLUSION:

Another three years of operation can be expected with no rechroming or machining needed on pistons or liners; bearings should last at least another year, heads and valves the same. Whether a 3-6 year or 4-8 year overhaul cycle will be established on this railroad depends on results of 18-month inspection.



WHAT FOUR OTHER MAJOR ROADS FOUND OUT ABOUT ALCO 251 RELIABILITY

NORTHEASTERN RAILROAD C – Two ALCO 251 engines were checked after 32 months of service with an average of 5,000 to 6,000 freight miles per month. Only one head has been removed to date. No work other than this has had to be done. A 40-month top-deck inspection is planned.

EAST-CENTRAL RAILROAD D – Ten ALCO 251 engines (nine, 20 months old; one, 36 months old) are being used for high-speed freight service, averaging about 8,000 miles per month. At 33 months, a check on the 36-month engine found all components very good. No maintenance has been required on any of the others. Next check point is to be at the 40-month mark.

EASTERN RAILROAD E – Fifteen ALCO DL-701's, 33 months old doing heavy-duty freight service, averaging 6,000 to 7,000 miles per month. One operated briefly without cooling water, and an inspection showed that all cylinder assembly material was suitable for re-use. This railroad says "ALCO's new engine can take it."

EAST-CENTRAL RAILROAD F – With 38 DL-701's and 25 DL-702's ranging from 14 months to 30 months in high-speed freight service; and six DL-600B's now 30 months old . . . the railroad has set up a three-year maintenance schedule for all, based on the excellent running record of the units to date.

SUPERIORITY OF 251 DIESEL

ALCO

RAILROAD B: Light repair and cleaning puts ALCO 251 diesel back into service after hauling freight 262,000 miles in 34 months

A top-deck inspection was made by this railroad after the ALCO DL-701 locomotive with a 251 engine had been in operation 34 months and 262,000 miles. Its job had been hauling heavy, high-speed freight. The engine was the standard twelve-cylinder 251, equipped with panel-type, air-intake filters.

RING WEAR (Compression-ring gap clearance) – Of the #1 rings: one had reached wear limit and one was close to it; but three were only 80% worn and the remaining ones 70% or less. All of the #2 rings showed less than 50% wear with the average around 35%. The #3 rings were less than 20% worn.

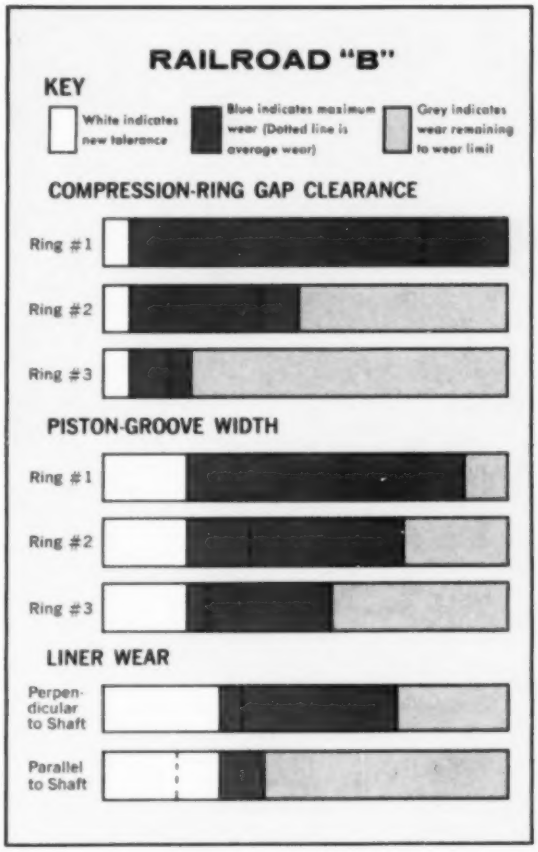
PISTON GROOVE WEAR (Piston-groove width) – Two of the pistons checked showed groove-width increases of 85% of permissible allowance on the top groove. Average for all pistons showed less than 50% wear had taken place.

LINER WEAR (Out-of-roundness) – Only one showed as much as 67% of permissible wear; five were still within the tolerance range of brand new cylinders.

OTHER ITEMS – Crank-shaft: no wear. Main and connecting rod bearings: no wear. Wrist pins and bushings: no wear. Valves and valve seats: good condition. Gears: still had original shaving marks at teeth ends. Camshafts: good condition. Water side of block and liner: in excellent condition and lower liner fits all good.

CONCLUSION:

The engine could have operated another year before top-deck overhaul, with the exception of the top compression ring on several cylinders. It would be possible to rebuild the engine with all but one of the original liners and all but four of the original pistons and expect *at least three additional years of operation* before another top deck overhaul. This railroad is still weighing the relative advantages of a three- or four-year overhaul period.



WHAT THESE FINDINGS MEAN TO YOU:

The ALCO 251 has been in railroad service only 3 years, but these results establish its superiority over competitive engines with 18-24 month overhaul schedules. The inspections prove the 251 can go *at least 3 years* – and more in most cases – without power-assembly change.

Lengthened overhaul schedules are made possible because of the ALCO engine's advanced thermal engineering and basic simplicity of design. Parts refinements like hard chrome-plated liners, Ni-resist ring-groove inserts on pistons, stellite valve-seat inserts – all contribute to the engine's improved reliability.

The railroads, reported on here, proved for themselves the wear-resistance superiority of the 251. As a result, they are now establishing cost-saving shopping schedules and maintenance programs for their fleets of 251 diesels. Yet, even these present schedules may be extended as additional reports of trouble-free service become available.

MAINTENANCE SAVINGS OF ALCO 251 DIESEL, PLUS LOWER FUEL CONSUMPTION, MEAN 25-35% REDUCTION IN OPERATING COSTS

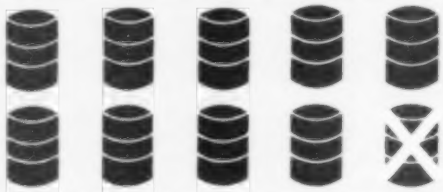
1. FEWER OVERHAULS

The ALCO 251 36-month overhaul period eliminates one top-deck overhaul in three, as compared to competitive locomotives. You save through . . .

- lower direct parts and labor cost
- reduced maintenance overhead
- increased locomotive availability

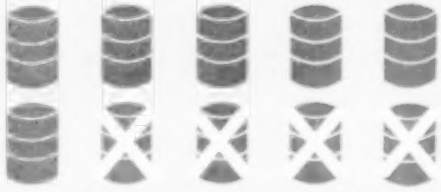
2. LOWER FUEL CONSUMPTION

Railroads' own tests have proved that the ALCO 251 diesel consumes at least 10 per cent less fuel than competitive engines.



3. LOWER LUBE-OIL CONSUMPTION

Similar railroad tests indicate lube-oil consumption of 251 can amount to 40 per cent less than competitive makes.



TOTAL SAVING: 25 to 35 per cent in operating costs, or almost **$10,000 PER ENGINE PER YEAR**

HOW YOUR RAILROAD CAN REALIZE THE SAVINGS OF THE 251 ENGINE

There are three ways railroads can achieve the large reduction in costs offered by the ALCO 251:

1. PLANNED LOCOMOTIVE REPLACEMENT—Through a program of planned replacement of old diesel-electrics with new ALCO locomotives, you will be assured of a young, efficient motive-power fleet, and avoid peaks of investment.

2. PLANNED ENGINE REPLACEMENT—By replacing aging engines—either ALCO or competitive makes—with the 251, you will gain the advantage of new power—at a significantly lower cost.

3. 244 REPROFITING—Through "reprofiting"—a factory program that applies the improvements of the 251 to the 244—costs on these older engines are reduced and their operation improved.

Your ALCO sales representative and other ALCO motive-power specialists will be happy to work with you, to help establish the best possible program for your particular needs. There is no obligation, of course, and the results can mean a significant forward step in your railroad's profits.

At ALCO, we have been serving the motive-power needs of American railroads since 1848. We have never served them better than today, and ALCO will always play this significant role in railroading.

ALCO

ALCO PRODUCTS, INC.

TRANSPORTATION PRODUCTS DIVISION
SCHENECTADY, NEW YORK

DIESEL-ELECTRIC LOCOMOTIVES · DIESEL ENGINES · RENEWAL AND MODERNIZATION PARTS · REPAIR AND REBUILD SERVICES

Why Stagger Rail at Midpoint?

"Although at one time there was a certain amount of track with square joints on the Canadian Pacific, all our trackage is now built with staggered joints. It is our experience that staggered joints provide better riding qualities and require less maintenance, particularly as regards maintaining joint level and curve alinement, than square joints.

Low Spots Develop at Joints

"If rail joints functioned with complete efficiency and in the same manner as the unjointed portions of the rails, their location with respect to each other would be immaterial. As is universally realized, however, rail joints comprise one of the weakest components of the track structure and require a considerable amount of maintenance to preserve them in proper condition. The majority of low spots in track develop at the joints. When low joints, or joints with battered rail ends, are located opposite each other, equipment passing over them tends to jump. This produces unpleasant riding qualities, undue dynamic stresses in both the rail joints and the equipment, and high-bearing pressures under the joint ties. The pressure effect, in turn, accelerates the rate of low joint development.

"When joints are staggered with each other, the tendency of low joints or battered rail ends is to produce an oscillating motion, rather than a jumping or pitching motion, in the equipment passing over them. At train speeds in excess of one critical speed which depends on the joint spacing and natural period of equipment oscillation, however, there is a dampening effect to such oscillation. This is due to failure of the equipment to attain full lateral movement on one side before forces are exerted on it to produce movement in the opposite direction. Furthermore, tests have shown that when a low rail joint is opposed by a solid length of rail, a greater portion of dynamic energy is absorbed by the solid rail than is induced in the joint. This results in smoother riding, minimum of mechanized damage to the joint, and more uniform distribution of tie-bearing pressures.

"Another advantage of staggered joints over square joints is the greater degree of continuity the former provide to the track structure. The fact that there is at least one solid rail at all sections of the track is an aid to the preservation of track alinement. Because it is not essential for staggered joints to be at the exact midpoint of the opposite rail, there is greater leeway in locating joints. This also facilitates track laying, particularly on curves.

"Although one criticism of staggered joints is that they produce skewing of the joint ties—destroying proper gage and alinement—this feature can be obviated by the correct application of rail anchors."—*G. H. Baillie, vice president, operations, Canadian Pacific.*

Conducted by George C. Randall, district manager, Car Service Division, retired, this column is a forum for questions railroaders are discussing today. We invite both questions and answers from all levels of responsibility. We'll pay $10 to any reader submitting a question that forms the basis for a column discussion.

Why Are Rail Joints Staggered at Midpoints of Rails? is a question first raised in these pages last December. Mr. Baillie's remarks conclude our discussion of this topic for the time being.

What Is the Best Way to Use Impact Recorders? was first discussed in our column of March 23.

Questions scheduled for future issues include one new topic and several that have already appeared in these pages.

Why Not Standard Railroad Wrist Watches? is the new question. Our correspondent points out that air lines and the armed forces operate satisfactorily with wrist watches and wonders why railroads stick to the pocket models. Let's have your comments on the virtues of one model over the other . . . G.C.R.

What Is the Best Way to Use Impact Recorders?

"As the various types of impact recorders are owned both by railroads and private industry, we do not believe there is any uniform method of using them.

"Therefore, we will answer your questions as follows:

"It is felt the best results are obtained by using the recorders in a regular movement, for an indefinite period. With reference to loading likely to be damaged by an excessive impact, we feel recorders should be used in such shipments. Use of recorders may indicate that no overspeed impact was involved in the damage, and would probably influence the shipper to investigate and place the responsibility for damage.

No Advance Notice

"We do not recommend that yard or switching crews of any carrier be given advance notice of the use of impact recorders.

"As to using data gained from handling recorders, it is not felt that such information can be consistently used as a basis for disciplinary action.

If readings of the recorder tape indicate that a specific crew or crews impact cars at greater than the allowed safe coupling speed, then we feel the officers in charge should take whatever disciplinary action may be necessary."—*H. M. Silverstein, manager-specialized operations, New York, New Haven & Hartford.*

Our pledge to the public

Among the costs you pay for travel and transportation on the Nation's railroads is a hidden charge of *$500,000,000* for which you get nothing.

This is the cost of work paid for but not performed or not needed. This is what is known as Featherbedding.

Featherbedding arises from old and useless work rules which restrict the advancement of employees, increase the cost of service to the public and impair the efficiency of railroads. It is confined to a *minority* of employees, many of whom were not born when these rules were made.

"Make Work" does not make jobs —it destroys them

Everyone loses by Featherbedding, most of all railroad employees. These "make work" rules do not make jobs.

Approximately *1000 railroad jobs a week* have disappeared in the past decade, and an even greater loss is inevitable if the rules are not modernized to provide the public with better service.

For a generation, railroad management has sought the cooperation of the rail operating unions to end these wasteful and costly practices — but without meaningful results. Four months ago, management suggested that the matter be submitted to an impartial commission for an objective study in the public interest.

The operating unions not only refused to join in this step but warned that they would oppose any move by management to establish such a commission.

Refusal to cooperate— does not solve the problem

The callous disregard of the public's interest and this continued refusal to admit that there is anything wrong in charging the public *$500,000,000* for work not performed or not needed leave the railroads no alternative but to seek a solution by some other means.

Accordingly, the management of America's railroad industry pledge that they will continue to strive, by whatever means are proper and hopeful of success, to obtain some correction in these inflation-producing, job-destroying, outmoded work rules, so that the country may have the modern and efficient railroad service to which the public is entitled.

$200,000,000 to stoke non-existent fires

Unlike steam locomotives, Diesels require no fires of any kind. Yet the public still must pay more than *$200,000,000 a year* for the obsolete job of fireman.

—this is Featherbedding!

9 days' pay for a 16-hour run

Fast New York-Chicago trains make the run in 16 hours, yet the railroads pay 9 *basic days' pay* for each engine crew position on the trip.

—this is Featherbedding!

A day's pay for one switch operation

A "road" engineer pulled a freight train into a yard but had to back it up the length of 40 cars. For this he was able to claim *an extra day's pay* as a "yard" engineer.

—this is Featherbedding!

AMERICAN RAILROADS

Today's smallest two-way mobile radio - actual size!

New General Electric Transistorized Progress Line

General Electric's new Transistorized Progress Line will fit in more places, in more different positions, than any other two-way mobile radio you can buy today.

Not only is this the world's smallest, lightest commercial two-way mobile radio, but standby battery drain is so low you need never turn off your TPL mobile unit, just like the clock in your car. You install no special generator, use less gas, require fewer engine jobs.

TPL is the first two-way radio that transmits up to 75 watts of power in high band . . . the first that really fits under the dash . . . the first to realize the full benefits of transistorized design (no more than four tubes) . . . the first to eliminate bulky cables through new one-piece design of receiver control and transmitter . . . the first with shielded dirt-free ventilation.

The new General Electric TPL ushers in a new era of convenience and reliability in mobile communications. Don't miss all the exciting details. Write General Electric Company, Communication Products Department, Section 3479-20, Mountain View Road, Lynchburg, Virginia.

GENERAL ELECTRIC

Communication Products Department

Burlington's super equipment makes Burlington's super service!

Come up with a smart – but solid – railroading idea and you're bound to interest the Burlington. It's one of the country's most progressive railroads – was, in fact, the railroad that blazed the trail for today's Diesel locomotives.

This progressive tradition is still going strong at the Burlington. And one example can be found in the road's fleet of 100 DF cars equipped with Allison KAR-GO Bearings.

The Burlington bought this special equipment because it was hauling large shipments of home appliances on tight schedules.

The freight had to get there undamaged – so they got DF-Loader cars.

It had to get there *on time* – so they equipped those cars with KAR-GO Bearings to eliminate delay-causing hot-boxes and cut their costs to boot.

The KAR-GO buy was not a snap decision. The Burlington bought two KAR-GO Bearings 33 months ago, tested them, bought two car sets three months later. A repeat order for 10 car sets came seven months after that – and then, because of the way the KAR-GO Bearings had proved themselves, the Burlington installed 100 car sets in December 1958.

And what does the KAR-GO record look like? Couldn't be better. These DF cars have averaged 2,000-2,500 miles a month for a total mileage of 1,000,000 miles. *And there hasn't been one bearing failure in that time.*

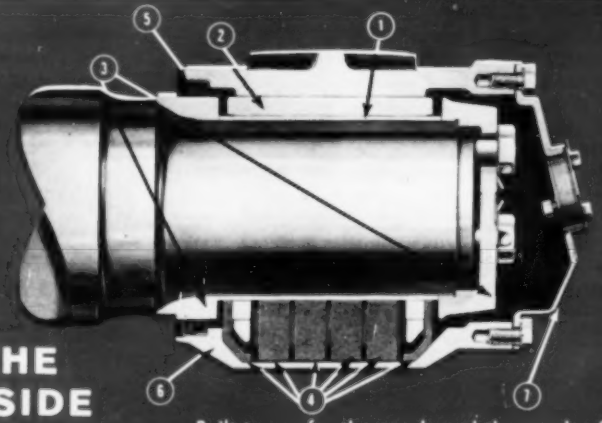
Repeat orders are nothing new for KAR-GO Bearings. Of the 45 railroads using them today, 21 have ordered at least twice. They must be good for the railroads – good for profits. Try some KAR-GO Bearings in your next freight car conversion or new car build – they're bound to be good for you.

KAR-GO, ALLISON DIVISION OF GENERAL MOTORS
Indianapolis 6, Indiana

Two-thirds of the Diesel locomotive engines on American railroads are equipped with Allison connecting rod and crankshaft main bearings and piston-pin bushings.

Allison KAR-GO
JOURNAL BEARINGS

A product of and built only by the Allison Division of General Motors



THE INSIDE STORY

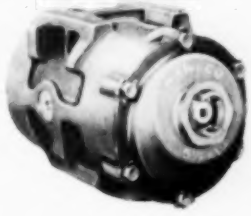
Built to run for thousands and thousands of miles, the Allison KAR-GO Cartridge Bearing gives you a sure answer to the hot-box problem at a low, low cost.

1. JOURNAL SLEEVE — Smooth, hardened surface for maximum bearing life — eliminates axle wear.
2. ALUMINUM ALLOY BEARING — Economical, precision-fitted, full round for maximum heat dissipation and prevention of axle roll-out.
3. THRUST RING AND CAP — Absorb lateral thrusts on hardened faces. Ring provides highly finished surface for oil seal.
4. FELT WICK LUBRICATOR — Insures adequate oil delivery to bearing — spring-loaded to make constant contact with journal sleeve.
5. OIL SEAL—Double lip, automotive type; keeps oil in and dirt and water out.
6. HOUSING — Rugged pearlitic malleable iron; completely encloses entire assembly; eliminates need for separate adapter.
7. COVER ASSEMBLY — Provides sealed closure, oil-filler plug and pressure-relief valve.

AAR APPROVED

for limited application in general interchange service

Having complied with standardization details, AAR approval has been obtained for wider application to freight cars in general interchange service.



Keeps lubricant sealed in—dirt sealed out.

Averages one inspection every 20,000 car miles.

Repays its cost in two years by cutting maintenance and operating expense.

Goes 200,000 miles on ½ pint of oil.

Offers railroads a low-cost solution to the hot-box problem.

WP Drives New Line Through

In northern California, teams of earthmovers and bridge and tunnel builders are hacking out a new route for the Western Pacific through some of the most rugged country in the United States.

When they get through, about $40 million will have been spent to produce a single-track railroad line just under 23 miles long.

The new route will replace nearly 27 miles of main line in the Feather River canyon. Eventually, the present line will be inundated by a vast new lake to be created by construction of the Oroville dam.

The dam, along with the attendant railroad relocation, is a project undertaken by the state of California through its Department of Water Resources. Although a hydro-electric feature is involved, the primary purpose of the 712-ft-high dam is to furnish water for irrigation as far south as Los Angeles and San Diego. The total cost of the project is estimated at more than $2 billion. The dam and its appurtenances alone will cost about $450 million.

However, the allocation of additional funds necessary to complete the project has been delayed by a disagreement between the northern and southern sections of the state over the manner of controlling distribution of water from the new lake.

Pending settlement of the controversy, available funds were parcelled out at the beginning to get the project under way. The thinking was that once a large portion of the project had been accomplished, the necessary remaining funds would be forthcoming. That's why work is progressing now on only a portion of the railroad relocation—notably, two of the five tunnels, two major bridges, and a small portion of the grading. One major bridge structure, three tunnels and some 18 miles of earthwork remain to be undertaken.

The relocated line departs from the existing line at a point a few hundred feet north of the Oroville passenger station, which is some four miles downstream from the proposed dam. It then negotiates a wide swing to the west before turning north and eventually rejoining the existing line along the North Fork of the Feather river. The country traversed is sparsely populated, mountainous, and is cut by several streams flowing in deep valleys.

The problem was to establish in this terrain a railroad line with a maximum grade of 1% compensated (somewhat in excess of the beginning grade of the existing line), and a maximum curvature of 4 deg 30 min (10 deg on the old line). It could be solved only by frequent resort to tunnels and high bridges, plus deep cuts, high fills, and several meandering curves of the "kidney" variety.

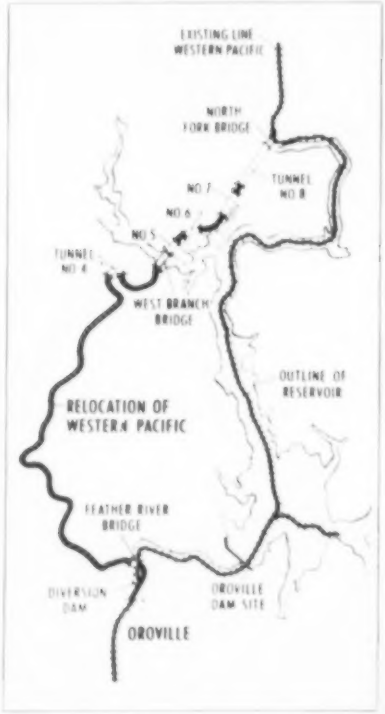
As projected, the relocated line has five tunnels, numbered from 4 to 8. These will range in length from 2,750 ft (No. 4) to 8,830 ft (No. 8). All will be lined with concrete. Three will be on tangent throughout. A fourth, the longest, will be on tangent except for a light curve at the north portal. The fifth tunnel (No. 4) will be on a 4-deg 30-min curve for its entire length.

Under a contract held by Peter Kiewit Sons, work is now under way on Tunnels 7 and 8. In both cases, the tunnels have been holed through. The work of applying the concrete linings has begun.

All the tunnels are concentrated in the northerly half of the relocated line where it makes several crossings with tributaries of the Feather river. This portion of the line, therefore, presents a succession of tunnels and bridges coming so close together that, in some instances, tunnel portals and abutments of adjacent bridges are only a few feet apart.

Three bridges of major proportions will be built on the relocated line. Probably the most outstanding of these is a bridge being constructed at the extreme northerly end of the line to span the North Fork of the Feather river. There, the line will emerge from the north portal of Tunnel No. 8 and pass almost immediately onto the bridge across the North Fork.

The bridge being built to effect this crossing is an open-spandrel reinforced concrete arch. Its main span will be 308 ft long center to center of piers. The height from river bottom to base of rail will be about 200 ft. Including approach spans, this structure will have a total length of nearly 1,000 ft.



CONSTRUCTION of Oroville dam will require that the line of the WP be removed from the Feather River canyon.

RAILROAD and highway approaches to the crossing of the West Branch of the Feather river are shown taking shape in this view.

Mountains

OPEN-SPANDREL concrete arch, under construction across North Fork of the Feather river, will be the longest of its type in the United States. This view shows formwork under construction. Train in background is on existing line.

"This span," says Frank R. Woolford, chief engineer of the WP, "will be the longest of its type in the United States." He adds that the open-spandrel concrete arch design was chosen because it proved to be more economical for the location than any other type. It also produces a picturesque effect on this scenic route through the Sierra Nevada mountains.

The design and construction of the bridge involve several novel features. Dimensions of the arch rib vary from 20 ft wide by 5 ft thick at the crown, to 30 ft wide by 8 ft thick at the spring line. This resulted largely from the provisions that had to be made to cope with seismic forces. The ribs are heavily reinforced, using No. 18 (2¼-in. diameter) bars. The splices are butt-welded by the Thermit process. Two hinged steel arches were used as centering. Total weight on this centering is over 6,000 tons. The center deflection with all the arch load in place was 1¼ in.

Another large and unusual bridge will be built to carry the relocated line and a highway, on separate levels, across the West Branch of the Feather river. The highway, U. S. Alternate 40, is also being relocated as a result of the project. The relocated highway was placed alongside and uphill from the railroad line approaching the West Branch crossing from the south so highway and railroad could be carried across the stream on a single structure, one of the many economy features of the project.

The cantilever bridge designed for the West Branch crossing will span the canyon about 400 ft above the streambed. The distance between the main piers will be 576 ft. The anchor spans will be 432 ft long. In addition, there will be a 360-ft simple span at the south end. The West Branch Bridge will be a double-deck structure with the highway occupying the top deck. Work has not yet started on this bridge.

The third major bridge on the relocated line is at the extreme southerly end, at a crossing of the Feather river a short distance above Oroville. This crossing is approximately four miles below the site of the proposed Oroville dam. It crosses an afterbay in which water will be up to 110 ft deep.

Now under construction at the Feather River crossing is a bridge consisting of a series of 100-ft ballast-floor deck plate-girder spans on single-cylinder concrete piers. The main span across the river will be 128 ft long. The bridge will have a total length of 1,108 ft, all on a 3-deg curve. The crossing is skewed about 30 deg with the river. To avoid skewing the super-structure, the spans are supported by circular piers with 'T' heads to support the girders.

There is a possibility that a second track will be required at this location in the future. Therefore, a second cylindrical shaft was built at each pier location and carried above the future pool level. Both shafts have a common foundation. In addition to the advantage of the square superstructure, these circular piers are the most advantageous when seismic forces in water are considered.

The Feather River crossing and the North Fork crossing were designed in conjunction with the railroad's bridge department by Glenn B. Woodruff and Raphael Sampson, consulting engineers of San Francisco. The West Branch bridge was designed by the California highway bridge department in co-operation with the railroad's bridge department and its consultants, Woodruff and Sampson.

Construction of the roadbed for the relocated line will require extensive grading and considerable ingenuity in determining slopes, benches and drainage. Some idea of the magnitude of the grading problem is given by the fact the fills will range up to 265 ft in height and the cuts up to 218 ft in depth at the track centerline.

The total grading required will come to an estimated 6,300,000 cu yds of excavation, most of it in rock. There will be about 4,500,000 cu yds of excavation in solid rock and 800,000 cu yds in loose rock, with only 1,000,000 cu yds in earth.

To date, only one grading contract has been awarded. It covers a 3.1-mile stretch of roadbed immediately south of the West Branch bridge where the railroad and U. S. Alternate 40 will occupy a common roadbed. The grading in this short stretch alone, for which the McCammon - Wunderlich Company has the contract, will amount to about 1,950,000 cu yds.

When the time comes to build the track for the relocated line, the work will be done either by railroad forces or under a contract awarded by the railroad. The rail will be the CF&I 119-lb section welded into 78-ft lengths—except in the tunnels, where it will be welded into continuous lengths.

Mr. Woolford points out that the entire project was located and designed on the basis of modern construction principles to provide an all-weather dependable line of railroad with a minimum of operational and maintenance problems.

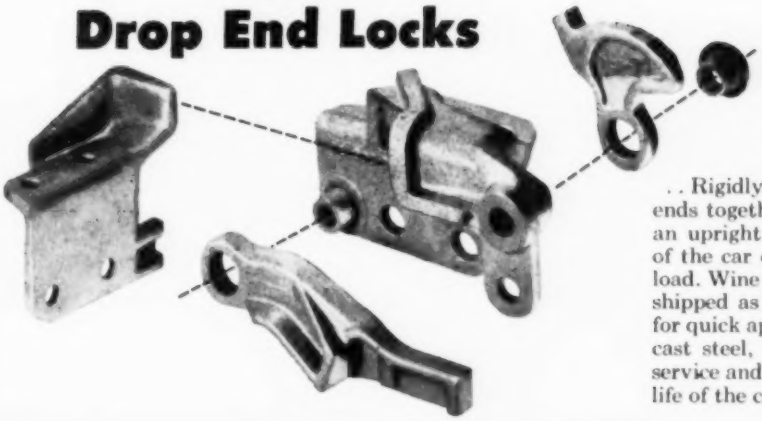
Cast Steel
INCORPORATED **DROP END** UNITS
Speed

Inside view—showing top corner interlock and bottom corner hinge trunnion.

Service.. Sustain Structure

For outstanding economies . . . increased safety factors . . . improved strength and durability for the life of the car—Wine Drop End Units (Locks and Balancers) form *the perfect* combination!

WINE
Drop End Locks



. . Rigidly interlock gondola sides and ends together—securing the ends in an upright position. Top corners of the car cannot spread regardless of load. Wine Drop End Locks are shipped as an assembled unit, ready for quick application. Made of electric cast steel, they insure maximum service and durability throughout the life of the car.

WINE
End Balancers

. . . Eliminate the necessity of using *four or five men* to close a drop end for car loading! Multiple spring steel torsion bars, incorporated between the center casting and the two outer hinge trunnion castings, permit *one man* to readily close the heaviest drop ends without assistance. Available for easy application on most drop end gondolas.

THE WINE RAILWAY
APPLIANCE COMPANY
TOLEDO 9, OHIO

Red China Pushes RR Building

By EDMOUR GERMAIN*

There are signs that impressive economic gains have come to one of the world's most backward areas—the great mainland of China.

The wheels of spanking new railroad trains—rolling on freshly laid tracks that often follow ancient caravan routes—have during the last decade been bringing modern technology to remote Mongolia, Southwest and Central Asia, and elsewhere.

Without question, Communist China is outpacing the rest of the world in the rate at which it is laying new trackage. China is forging ahead even of Russia and India, two Asian neighbors that are similarly committed to building railroads as a way of catching up with the more economically developed countries of the West.

In a "First Five-Year Plan" ended in 1957, the Red Chinese allocated most of their expenditures for extending transportation and communication facilities to railroad construction—and succeeded in building 3,060 miles of new lines. A "Second Five-Year Plan," which got under way last year, proposes to build an additional 5,000-5,600 miles of line. When this is completed, China's rail lines will be about as extensive as those of the Canadian National.

By comparison, the U.S.S.R. has built 2,000 miles of railroad since 1951, with 4,000 more miles scheduled in a program now under way. India, with the fourth largest rail network in the world, has installed somewhat less than 2,000 miles of railroad since 1951.

Strategic reasons undoubtedly influenced the location of some of the new Chinese lines, especially in the early part of the program. In more recent years, economic considerations seem to have received greater priority. More attention has been given to the opening of new oil and mining centers and to bringing remote agricultural areas, timber centers and manufacturing towns closely into the central economy.

Most of the new lines are important both strategically and economically. The line from Laiping to Channankwan on the Vietnam border (see 1 on map) was rushed to completion to carry supplies to North Vietnam Communists in their war with South Vietnam. It also serves as a permanent direct rail link for trade between China and Southeast Asia. China strengthened these trade ties with North Vietnam last year when the two countries signed a protocol for joint use of a 530-mile railway (see 2) connecting Kunming in Southwest China with the port of Haiping on the Gulf of Tonkin. This line is largely restored, but includes some new trackage.

The Kunming-Haiping line (2) is important to the Vietnamese Communists as a supply route for Chinese aid. It is

(Continued on page 38)

*Mr. Germain is a New York newspaper writer specializing in business and financial subjects.

CONSTRUCTION OF NEW RAILWAYS IN MAINLAND CHINA SINCE 1949

RAIL LINES FROM	RAIL LINES TO	MAP KEY	LENGTH IN MILES	PRESENT STATUS
Main Trunk Lines and Connections				
Tienshui	Lanchow	9	212	Completed 1952
Chengtu	Chungking	16	314	Completed 1952
Litang	Tsamkong	41	195	Completed 1955
Fengtai	Schacheng	24	65	Completed 1955
Yierhshih	Taheikow	23	56	Completed 1955
Paoki	Chengtu	10	469	Completed 1956
Yingtang	Amoy	3	155	Completed 1956
Nanping	Foochow	4	78	Completed 1957
Paotow	Lanchow	8	682	Completed 1958
Lungchang	Kweiyang	11	250 (est.)	Under construction
Kweiyang	Tuyun	43	98	Under construction
Naiking	Kunming	5	504	Under construction
Taiyuan	Chengchow	40	200 (est.)	Under construction
Lanchow	Sining	44	125 (est.)	Under construction
Peking	Yuanking	19	248	Under construction
Loyang	Itu	17	410	Under construction
Kinhua	Wenchow	21	157	Under construction
Peking	Chenteh	26	125 (est.)	Under construction
Chining	Kolgan	45	75 (est.)	Under construction
Mowming	Tsamkong	42	50 (est.)	Under construction
Kweiyang	Kweishui	43	25 (est.)	Under construction
Kweiyang	Lintai	43	22 (est.)	Under construction
International Connecting Lines				
Laiping	Chunnankwan (On No. Vietnam border)	1	260	Completed 1951
Chining	Ehrlien (On Mongolian border)	7	210	Completed 1954
Lanchow	Urumchi-Alma Ata (At Russian border)	12	1770	Built beyond Ansi
Other New Lines Planned				
Hankow	Sian	36	375 (est.)	Much of this probably to be built as part of 5,000-5,600 miles of new trackage projected in Second Five-Year Plan (1958-1962)
Sian	Chungwei	37	325 (est.)	
Chungwei	Wuwei	38	125 (est.)	
Lanchow	Chengtu	31	435 (est.)	
Chengtu	Sichang	32	250 (est.)	
Sichang	Kunming	33	225 (est.)	
Chuchow	Kweiyang	35	465 (est.)	
Kweiyang	Weining	34	185 (est.)	
Wuhu	Yungtan	39	235 (est.)	
Sining	Golmo	30	450 (est.)	
Golmo	Mangyai	28	340 (est.)	
Golmo	Lhasa	29	570 (est.)	

RED CHINA'S RAILWAYS

Photographs by Eastfoto

New ASF Ride-Control® Truck minimizes bolster shift, provides longer truck life

No truck can possibly last forever. But ASF has done the next best thing by designing the new ASF Ride-Control Truck, the truck that maintains its efficiency over the longest possible period. Through greatly increased bearing areas, critical wear points last longer than ever. Through larger bolster dimensions and better shoe-bolster action, shift is minimized. You get constant control of ride—balanced wear from shoe and bolster—and longer life from the truck. The new ASF Ride-Control Truck has been tested and proved in action on the ASF service laboratory test train, and is ready now to give you even better service.

See it at the Allied Railway Show!

NEW Column wear plate with high weldability

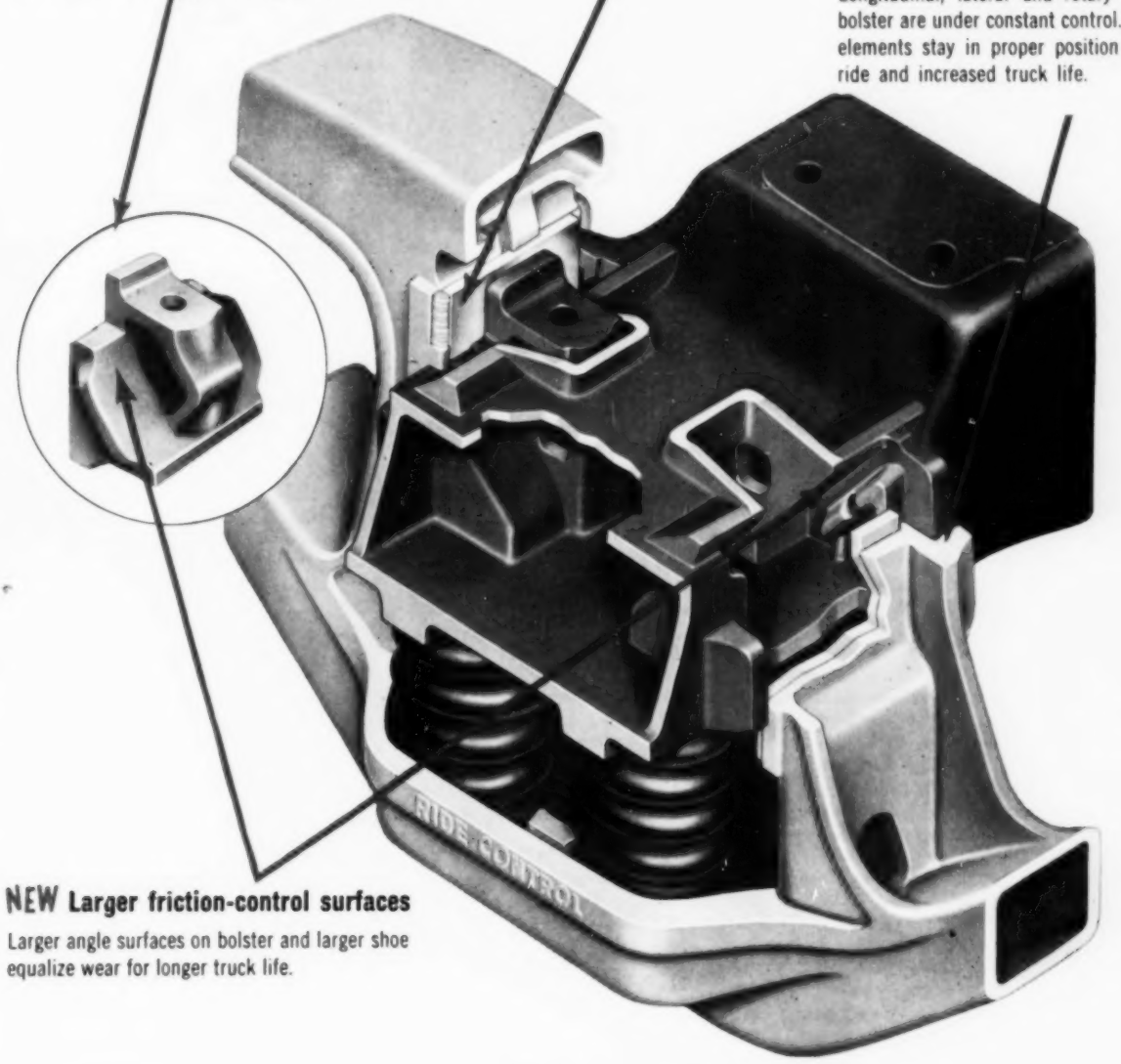
Steel composition and heat treatment developed for wear resistance, yet the plate is readily weldable.

NEW Wing shoe is shell-molded

Larger areas—plus ASF's precision casting process that results in smoother surfaces and closer tolerances. New longer-wearing steel, too.

NEW Superior bolster control

Longitudinal, lateral and rotary movement of bolster are under constant control. Ride-Control elements stay in proper position for improved ride and increased truck life.



NEW Larger friction-control surfaces

Larger angle surfaces on bolster and larger shoe equalize wear for longer truck life.

ASF® NEW Ride-Control Truck

AMERICAN STEEL FOUNDRIES

Prudential Plaza, Chicago 1, Illinois

Canadian Manufacturer and Licensee: International Equipment Co., Ltd., Montreal 1, Quebec
Other Foreign Sales: American Steel Foundries, International, S.A., Chicago

PRI MEMBER

EXPERIMENTAL ROADBED built in 1955 is designed to meet desert problems.

(*Continued from page 34*)
even more important to the Chinese as an outlet for the tin and other products of the Kunming region.

Strategic reasons were probably uppermost in the decision to construct lines from Yintang to Amoy (3) and Foochow (4), the seaport towns across the narrow strait from Nationalist Formosa. However, these ports have long been important in China's export trade. From Amoy, for example, China ships sugar, tobacco and bamboo paper.

Completion of the line to Chennankwan provided for the first time a direct rail route from Russia's Trans-Siberian Railway at Manchouli, the northernmost Chinese rail point on the Manchurian-Siberian border, to Vietnam. Other lines under construction in Southwest China (5) will provide a second north-south rail route from Hokow, North Vietnam, through Southeast Asia and Mongolia to the U.S.S.R., even farther inland than the first.

The Mongolian section of this route (6) follows an ancient caravan trail between Lake Baikal in south central Siberia to Ulan Bator, the Mongolian capital, and across the Gobi Desert to Peking. This includes 435 miles of line in Mongolia, not included in the 3,060 miles built by the Chinese since 1949. The north end of this line joins with the Trans-Siberian, the south end with a connecting railway constructed by the Chinese from Tsining (7).

Construction of the Mongolian route was a well-kept secret from the free world. Not until Oct. 12, 1954, did a joint Sino-Soviet bulletin disclose that an agreement had been signed between the U.S.S.R. and Mongolia in 1952 for building a railway connecting with a line the Soviets had built to Mongolia in 1949. At the same time, the Chinese Communists agreed to build the connecting line in China, with the goal of providing through transport by 1955.

Although the Mongolian People's Republic has long been in the Russian sphere of influence, the territory itself was regarded primarily as a buffer state until the Chinese Communists defeated the Nationalists and took over the government of mainland China. The Mongolian railroad was the first sign of increasing Russian interest in the economic development of Mongolia itself. At present, the 1958-1960 Three-Year Plan for Mongolia calls for big increases in oil and mining production as well as the traditional product, livestock.

From the Mongolian terminus at Chining, rail lines today extend easterly to Peking and westerly-southwesterly to the new rail hub, Lanchow. Part of the line to Lanchow (8) is new construction, finished after great effort only last year.

A new track from Tienshui approaches Lanchow from the southeast. This road was built primarily as the first step in the route planned into Sinkiang Province and Central Asia, but it also serves as a link in the inland north-south route, connecting as it does with another new line to Chengtu and the south (10), from which other lines under construction branch out to rail junctions Kweiang (11) and Kunming (5).

A new 1,740-mile line is being built northwestward from Lanchow through the heart of Central Asia to Urumchi, capital of Sinkiang Province, and beyond to the border of Russian Turkestan at Alma Ata. This will provide another rail connection with the U.S.S.R., and also will open up a new region for economic development.

Lanchow, an important manufacturing center, has traditionally been regarded as the gateway to Central Asia. The rail routes westward follow the dusty trails camel caravans have used for centuries.

Construction to the Urumchi line began in the fall of 1952. The route is now completed through the Yumen oil district to a point beyond Ansi, about two-thirds of the distance between Lanchow and Urumchi.

The Russians have undertaken to lay 190 miles of track on their own side of the border (14) from the Soviet Turkestan-Siberian Railway via Lake Ala-Kul along the historic route between Russian Central Asia and Sinkiang. Some 2,000 Soviet youths were put to work on this rail link.

When the railroad is completed from Lanchow to Alma Ata, probably sometime next year, industry and mining through all of Northwest China, particularly Sinkiang province, are expected to undergo extensive development. Already a producer of gold, oil, coal and iron ore (which even without a rail link supported a metallurgical plant at Urumchi), Sinkiang is also known to have deposits of silver, copper, lead, zinc, molybdenum, tungsten, gypsum, salt and jade. The region's principal oil field, between Urumchi and the border, has a gasoline-producing refinery as well as coking, asphalt and barite plants. Extensive electric power plants are planned for the entire Northwest area.

The emphasis on constructing lines that lead to the Soviet Union suggests the U.S.S.R. is promoting the whole railroad development in China. Certainly, the Russians have a deep interest in Red China's rail program. Moscow in 1950 granted China a $300 million loan, although the money was not specifically earmarked for railroad construction. The Soviet Union also sent China hundreds of miles of rail in the fall of 1949, when activity was concentrated on rebuilding lines destroyed in the Chinese civil war.

Russia's most valuable aid to China, perhaps, was the help given by its railway specialists in the reconstruction work, including the rebuilding of bridges. In particular, the Russians taught the Chinese to make effective use of much war-damaged equipment.

It would be misleading, though, not to take full note of the tremendous investment in equipment and effort made by the Chinese themselves.

In the first of its five-year plans, the Red Chinese allocated nearly 20% of the investment for capital construction to railroad development. The goal was to establish an adequate transport network permitting development of heavy industry.

In terms of human effort, the Chinese undoubtedly paid a very big price, particularly between 1949 and 1954 when greater use began to be made of construction machinery. A Railway Corps of the Chinese People's Liberation Army figured prominently in the initial work of repairing damaged lines. In 12 months, the corps repaired 620 miles of track and 400 bridges.

Large cadres of peasants were also

pressed into service to construct new lines. Between 1950 and 1952, 334,000 peasants assisted 137,000 members of the Railway Corps in building new lines between Chengtu and Chunking (16), Tienshui and Lanchow (9) and Laiping and Channankwan (1). Large numbers of laborers were also involved in repairing the Tientsin-Pukan (17) and the Tsingtao-Tsinan (18) lines, and in building the Paoki-Chengtu route (10).

Many tunnels and bridges have been built. A 26-mile stretch of the new Paoki-Chengtu line (10), for example, required 151 bridges. The line from Lanchow to Sinkiang Province (12), though, has been the biggest engineering problem. The steep and mountainous terrain involved construction of two large bridges, at an altitude of almost 10,000 ft above sea level, as well as seven long tunnels.

Red China's government expects major benefits from its railroading program. The Chengtu-Paoki line (10) frees the rich economy of Szechwan Province from its former dependence on the rapid-strewn Yangtze River. Szechwan, noted for a grain surplus, in an often famine-stricken country, could ship only about a fifth of its surplus before the railroad arrived. A new line (13) near Peking will, when completed, feed coal from newly discovered mines to steel mills at Taiyuan and Peking. A 400-mile line (20) in Honan Province will feed coal to central China's steel mills and will speed movement of the iron, aluminum, manganese, grain, cotton and tobacco produced in the area.

A line under construction between Kinhua and Wenchow (21) links the industrial port of Wenchow to the Chekiang-Kiangsi trunk route (22). Other construction since 1949 includes some 400 miles of forest railways in the lumbering areas of Manchuria (23). A bypass route (24) has been built connecting the junction of the Peking-Hankow (25) and Pekin-Mukden (26) lines with the new route to Suiyan (27) and eventually to Lanchow (8).

Lanchow, in addition to serving as the gateway to Sinkiang Province, is the starting point for new railways to be built to the Chinese Far West (28) and to Lhasa, in Tibet (29), as extensions of the line to Sining (30) already under construction. The line to Tibet will run through a new oil region and will eventually include about 750 route miles. About a third of the line will be at 14,800 ft above sea level, making it the world's highest railroad.

Other new lines will run out of Lanchow southward to Chengtu (31), Sichang (32) and Kunming (33) where there are already rail connections with North Vietnam. In addition to tapping rich coal and iron ore deposits, these lines will form a third major north-south route, deep in the interior.

Kweiang, to the east of Kunming, will be another important rail center. Lines planned will run west (34) to a junction with the Neikiang-Kunming line (5) and east to meet the existing north-south route (1). Other new lines in the area will link coal mines with steel mills.

Also planned are new, more direct routes (36, 37 and 38) between Hankow and the Lanchow-Sinkiang railway (12). On the eastern seaboard, a new line (39) will provide a more direct route between Nanking and the south. A line now under construction (40) will provide a more direct route from the Mongolian line to the south.

Between 1954 and 1957, China's industrial output, assisted by the expanding railway system, has increased 40%. The new rail links with the U.S.S.R. are responsible for an increased and still growing trade with the Soviet Union. Exports to U.S.S.R. in 1956 were valued at 3,057 million rubles in 1956, compared with 1,899 million rubles in 1953. Imports for the same two years were up from 2,790 million rubles to 2,932 million.

Railroading After Hours with Jim Lyne

WHAT'S A 'HOJACK'?—A former railroader, now in the consulting business, says he's run into the term "hojack" in two or three places. A hojack, it seems, is a train running under trackage rights over another railroad. My informant asks: (1) Is this word used only in two or three places, or is it fairly general? (2) What is the origin of the term?

PRIVATE RRS' OPPORTUNITY—An observant railroad man writes me from Arizona to credit one of the big ore railroads (not a common carrier) with being first to demonstrate that diesels could manage tonnage trains safely, without a "fireman." He suggests that these newly built railroads—of which there are several in various parts of the world—have a great challenge and opportunity to demonstrate automatic train operation—no crew at all, except perhaps, maybe, a kind of watchman.

2-MAN TRAIN CREW—The Greater Winnipeg Water District operates a 97-mile railroad. Stanley Barriger, employed by the NYC in its LCL department, has recently taken a trip over this railroad. He tells me he rode a 4-car mixed train, operated by a 2-man crew—engineer and conductor. The train was powered by a Mack rail-motor car, and it peddled LCL en route. When there was loading or unloading to do, the engineer went back and helped the conductor do it.

If small trains everywhere could be operated by proportionately small crews, there'd be a lot more such trains running than there are. Probably also, a lot of branch lines now abandoned would still be in operation.

SEPPWLRTEP—Not long ago Paul Allingham, publisher of the Atchison (Kan.) Globe, sent me a membership card in the "Society for the Encouragement and Preservation of People Who Like to Ride on Trains, Especially Pullmans."

It would be my guess—if all those really interested in the objective of such a society were counted—that at least half the traveling public would qualify.

Train riding has, for a number of reasons, got itself out of the limelight. It needs a few imaginative campaigns—such as this SEPPWLRTEP—to get it back to the center of the stage. Certainly, the service many railroads are giving today far excels that which won the industry wide recognition in the years just prior to World War II.

'CARFAX'—I'm happy to report that this department has developed an international clientele. For example, I have a letter from John D. M. Parker, scientific officer of the British Transport Commission—on the subject of "Carfax" (noted here May 25, p. 36). Mr. Parker goes along with my opinion that this word means "crossroads" (where four roads meet). He traces it back to Norman times.

Special report to Caterpillar D8 Tractor owners:

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Caterpillar's continuous research and testing pay off for you with the development of superior D8 track components. The next time you replace track parts, specify these new components. They last longer and require less maintenance. Here's what's available for 2U, 13A, 14A and 15A tractors:

30% STRONGER PINS AND BUSHINGS have more wear area to extend life. The big track pins are ¼" larger in diameter and heat-treated deep to resist wear . . . pins will not bend and cause uneven wear. The large contact areas of the bushings are hardened deep, both inside and out. Under field conditions these bushings have lasted up to 44% longer than regular bushings.

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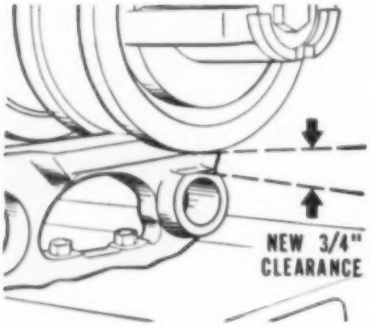

STRONGER, LONGER, HIGHER TRACK LINKS are 3 lb. heavier, 1" longer and ¼" higher. New length means fewer track sections are required. Increased height gives up to ¼" more *link pin boss-roller flange* clearance. Improved steel used in these links permits 80% deeper rail hardening and greater strength—pins and bushings stay tight *in the links* even under the roughest application.

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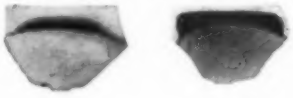

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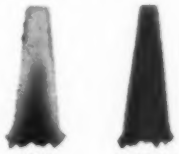
NEW TRACK SHOE GROUSERS ARE 20% THICKER at the tip and are hardened much deeper than on regular shoes. The new shoe as a whole is bigger and heavier to resist bending, impact and wear. Track hardware used with the new track components is stronger—bolt diameter increased from ¾" to ⅞".

GROUSER HEAT TREAT PATTERNS



NEW REGULAR

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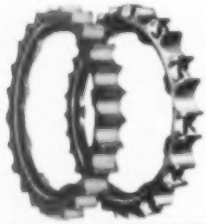

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Journal-Box Debate Continues

Performance records cited in defense of lubricator pads as AAR mandatory order comes under fire. Upswing in roller bearing applications brings out discussion on service life of bearing.

"The hotbox is today's biggest operating problem."

These words of Santa Fe President, E. S. Marsh, in his opening address to the AAR Mechanical Division (RA, June 29, p. 54), focused attention on this subject at the start of the division's recent annual meeting.

The interest was maintained to the end of the meeting. Of all committee reports presented, none was discussed more thoroughly than the two most pertinent to the subject—Lubrication of Cars and Locomotives, and Journal Roller Bearings.

Before presentation of these reports, two preliminary actions had been taken:

- The General Committee made its position clear on lubricating devices—there should be no change in present policy concerning application of the devices because of the improved performance they had shown over loose journal-box packing.
- The date for mandatory application of journal lubricators was extended by one year to January 1, 1961, by the Arbitration Committee.

Road Test Progress

The lubrication committee's report, presented by Chairman A. J. Schulte, lubrication supervisor, Santa Fe, highlighted:

1. Progress being made in extended lubrication road tests of roller bearings of different manufacture. Inspection was made on March 23, 1959, of two Southern Pacific 70-ton piggyback cars equipped with 6 by 11 Timken AP roller bearings after 48 consecutive months of service without addition of grease. Each car had accumulated approximately 288,000 miles with a load factor on the bearings not exceeding 60%. The inspection revealed no evidence of fatigue and that sufficient lubricant remained for continued safe operation. This report supplemented that made last year on the test (RA, Sept. 1, 1958, p. 16).

2. Strengthening of specifications M-918 for journal lubricating devices. Revisions to these specifications were submitted as a supplementary report in Circular D. V. 1450-A and recommended as a letter ballot item.

In opening discussion on this report, C. M. House, general superintendent motive power and car equipment, Gulf, Mobile & Ohio, was highly critical of the AAR's 1956 mandatory order for application of lubricating pads to interchange freight cars. In a prepared statement he gave these reasons why the order should be cancelled:

1. The 1957 and 1958 national hotbox averages were worse than in 1956 when the lubricator ruling was made. The poor records were made with 600,000 cars, or about one-third of the freight-car fleet equipped with pads.

2. Some 275,000 cars were equipped with two conditionally approved pads before they were found inadequate. This meant, Mr. House said, that the railroads "plunked some 11 million dollars in the sewer."

3. Deficiencies in the spring plankless truck design make it impossible to cure the hot-box problem by use of pads. [Mr. House introduced into the record an account of an investigation he made in 1953 of this truck design, which he brought to the attention of the Mechanical Division at that time.] Mr. House maintained that not only should waste have been ordered eliminated, but the inherent faulty design of the truck should have been corrected.

"The roller bearing," Mr. House said, "is the only proved device that will cure hot boxes" despite the faulty truck design. He cited the record of the Quebec North Shore & Labrador on which roller-bearing-equipped cars have operated some 390 million miles with only one hot box. Also, he said, one freight roller bearing has a record over the past 12 years of 100 million miles per hot box, compared with the 1958 national average of 200,417 miles per hot box on cars equipped with pads and waste. While this high average may not be maintained for all roads, he said, "it certainly proves that these bearings are not in the experimental stage."

In conclusion, he said he is "opposed to the application of any device being made mandatory until it has been thoroughly proved. The pads are not ready for it, neither is the seal at the end of the box ready for it, and I just cannot subscribe to wasting all these millions of dollars without getting any return on the investment." [Mr. House's opposition to the journal-lubricator ruling was presented in articles in Railway Age of June 18, 1956, p. 45, and October 20, 1958, p. 15].

A. J. SCHULTE

Pads Outperform Waste

In answer to Mr. House, Mr. Schulte said:

1. The Santa Fe had studied the possibility that spring planks protected the solid journal bearings. These studies showed that just as many journal bearing lugs broke on spring plankless trucks as on spring plank trucks; that the location of the lug determined the breakage. A sampling of 10,000 bearings showed breakage on only 3%. If broken lugs are an indication of truck design deficiency, then it can not be a major problem with such a small breakage.

2. Possibly journal stops should be applied to all plain bearing cars.

3. It is Santa Fe policy to apply roller bearings to new equipment, but something must be found for existing rolling stock.

4. Most roads got a performance with pads at least three times better than loose waste; the Santa Fe performance exceeded this ratio.

5. In comparison with the N&W, the GM&O showed a very poor hotbox record, with a typical month's figures of 2,117,356 to 122,516 miles per hot box, respectively. [Latest figures, released

June 26, 1959, showed for April 1959 that records were: N&W, 1,270,092; GM&O, 105,390 miles per hot box. N&W had 85.5% of its car fleet equipped with pads as of May 1, 1959].

E. Wynne, chief of motive power and car equipment, Canadian National, said the new specifications were inadequate. He presented these views:

1. Feeding (oil) rates are very important.

2. AAR should take steps to eliminate poor performing pads at first repack period.

3. Lubrication committee should establish free height for new and reclaimed lubricators; also it should establish the force required to compress lubricator to 3-in. height for application to new journal box assembly.

4. From January 1, 1958, to May 31, 1959, the CNR had a record of under 200,000 miles per hot box for waste-packed journals. At the same time, some pads gave poorer performance; others operated over 2,400,000 miles per hot box.

5. In view of poor performance of some pads, the AAR has been too lax on pads; the specifications need teeth.

6. The CNR is removing pads with poor records despite its investment in them. One wreck on the CNR caused by a pad-equipped car cost three times the total investment in that type of pad.

7. CNR had burned-off journals every 11,575,000 car-miles with waste-packed cars; 4,900,000 miles for some lubricators; 155,500,000 miles for other lubricators.

8. The CNR may agree with Mr. House about spring plankless truck design under high speed and heavy load conditions. The road is currently sponsoring a research project by the National Research Council of Canada for an impartial engineering analysis of the two truck designs and their operating characteristics.

Journal Stops Needed

C. W. Kimball, chief of car inspection, Southern, presented his experience with pads, making the following points:

1. Half of Southern's cars have lubricators.

2. Pads give 2,000,000 miles per hot box; waste, 100,000 miles.

3. In spite of excellent pad performance, the Southern's hot-box record becomes worse each month, indicating that waste-packed cars are having more hot boxes than ever before.

4. Southern is having pads scrapped by other roads using AAR reclaimed lubricator height gage on repair tracks. [Mr. Schulte answered this later by saying the reclaim gage is for use only after pads have been renovated, not to reject pads removed on the rip track.]

5. In view of good performance of journal stops, it is time to put something about them in interchange rules. No dust guard will stand up as long as the axle wobbles as it does in a box without stops.

J. T. Daley, superintendent motive power, Alton & Southern, said his road had been working with some small stops that required little installation work. In his opinion, a throw-away lubricator is needed, possibly one with a replaceable filler. If all costs are considered, pad reclamation is not economical, and he added: "We are in the maintenance, not the reclamation business."

Division Chairman S. M. Houston, general superintendent mechanical department, SP, said that when railroads started the pad program they expected miracles. He said: "We have been careless in the selection, application and servicing of lubricators. Despite this, better performance has been achieved."

Roller Bearings Popular—Service Life Questioned

Reporting on journal roller bearings, Chairman F. Fahland, general mechanical engineer, UP, said: 14,000 car sets of freight bearings had been applied or ordered in first half of 1959. At end of 1958, there were roller bearings on 45,965 freight cars, an increase of 6,737 cars over 1957.

Conditional certificates of approval have been issued for Timken heavy duty type AP, Hyatt Hy-Roll, Canadian SKF, and SKF Expediter General-Purpose. The Brenco bearing, a type submitted recently without prior service, will be operated on up to 100 cars for a minimum of two years before conditional approval will be considered by the committee.

P. C. Dunn, assistant general manager—mechanical, Boston & Maine, stated that they have had the roller-bearing assembly come out of the side frame during derailments, which complicated the effects of the initial derailment. This had been a particular problem on 35 milk cars equipped with Chrysler trucks, but that characteristic was not peculiar to the Chrysler truck design.

Mr. Dunn read a message from P. B. McGinnis, president of the B&M, which said that, while there are roller and sleeve bearings on less than 2% of the nation's total car fleet, the B&M now has 32% of its cars equipped. This is the highest percentage of any railroad in the United States, and it is the aim of the B&M to equip more cars with roller bearings.

F. FAHLAND

J. W. Hawthorne, chief mechanical officer, Atlantic Coast Line, conducting the meeting at the time, said that his road has nearly 25% of its freight cars on roller bearings.

Mr. Wynne, of the CNR, said he believes in the future of the roller bearing. It would cost approximately $100,000,000 to equip all CNR cars with these bearings. He said that more exact information on the life of the roller bearing is needed to determine the best possible buy. As an example, he pointed out that $1 might buy 10 years of roller bearing life, and $1.25 might buy 30 years of life. He said this is a field which needs more engineering analysis so that roads could have full information on which to base their decisions.

Commenting on the roller-bearing report, M. A. Pinney, engineer tests, Pennsylvania, prefaced his remarks by stating that they represented his personal opinion and not necessarily that of the PRR. He made the following observations:

1. Passenger-car roller bearings have operated approximately 20,000,000 miles per hot box, and the first freight-car roller bearings were of a similar heavy duty design.

2. In 1951, Timken made its initial economic study of the roller bearing situation. This was followed by some studies by the solid bearing manufacturers, the Southern Pacific and the AAR. The general conclusion was that lower-cost roller bearings were necessary to make it possible for railroads to proceed with freight-car applications.

3. The methods which manufacturers have used to produce these lower-cost bearings included making the outer race the housing. The cap is attached to the axle end rather than to any hous-

ing. This makes it necessary to have double seals (one at each end) on the packaged roller bearing assembly. A smaller size means a limited grease capacity. The size and number of rollers was reduced.

4. The current design is five-eighths that of the original heavy duty design. The life of the bearing is proportional to the cube of this size factor, and the cube of five-eighths is approximately one-quarter.

5. Manufacturers had rated the original heavy duty bearing as having a life of 900,000 miles, and the life of the current packaged bearing as 500,000 miles. Based on the cube of the dimensional relationship, and assuming no major changes in metallurgical characteristics, then either the original heavy duty bearing had considerably more than 900,000 miles life, or the present design has considerably less than 500,000 miles life.

6. The freight car truck has no end rails to keep it in tram, as is the case with the passenger car truck. The bearings then must act to keep the truck square. Swing hangers on passenger car trucks reduce the lateral, but in the freight truck the bearings must also absorb full lateral force.

7. He has no real analytical basis for his statement about the limited life of the packaged roller bearings. However, if the packaged bearing has a 500,000 mile life and is applied to the ordinary freight car which operates 17,000 miles per year, the bearing could be expected to last for 30 years. If these bearings are applied to piggyback cars which operate 75,000 miles per year, the life would be nearly seven years.

8. This is further complicated by the fact that conventional freight cars are equipped with cast-iron or one-wear wheels which have a total life of only seven to nine years. During the 30-year life of the car, the bearings will have to be removed and inspected several times in conjunction with wheel changes. On high mileage equipment, such as piggyback cars, multiple wear wheels are frequently used which will operate over 400,000 miles without change. This means that wheels may not be removed often enough during the life of the bearings to insure that their internal components will receive inspections permitting detection of symptoms of early failure.

9. Economics caused the withdrawal of the heavy duty freight car bearing design.

The narrow pedestal side frame now used will not permit application of bigger packaged bearings. There is economic justification for the use of the wide pedestal truck and the heavy duty or larger size AP bearing on high mileage freight cars.

Current Publications

FROM THE MANUFACTURERS

BYERS Mn WROUGHT IRON. 8 pages. A. M. Byers Company, Box 1076, Pittsburgh 30. Free.

Mn wrought iron is a specialty alloy wrought iron containing approximately 1 per cent manganese. The booklet contains charts showing this new metal's improved impact resistance at sub-zero temperatures and includes data on corrosion. It also discusses working properties, availability and suitability in low temperature services where the possibility of brittle failure poses engineering and design problems.

PAINT STRIPPING. 8-page booklet, in color. Railroad Sales Dept., J. B. Ford Division, Wyandotte Chemicals Corporation, Dept. RA, Wyandotte, Mich.

"Freight Car Paint Stripping, Spray Tunnel Method," describes and illustrates in detail assembly-line paint stripping of railroad freight cars using Wyandotte spray tunnel method.

NEW BOOKS

BULLETIN NO. 100. 112 pages, illustrations. Railway & Locomotive Historical Society, Baker Library, Harvard Business School, Boston. $2 to members; $3 to non-members.

Contains eight articles of particular interest to railroad historians and railroad fans.

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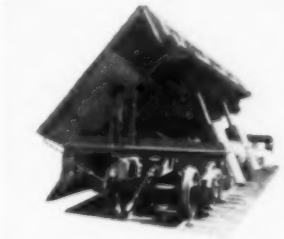

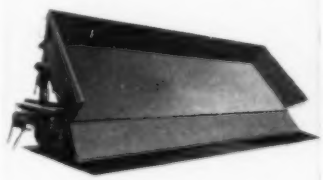

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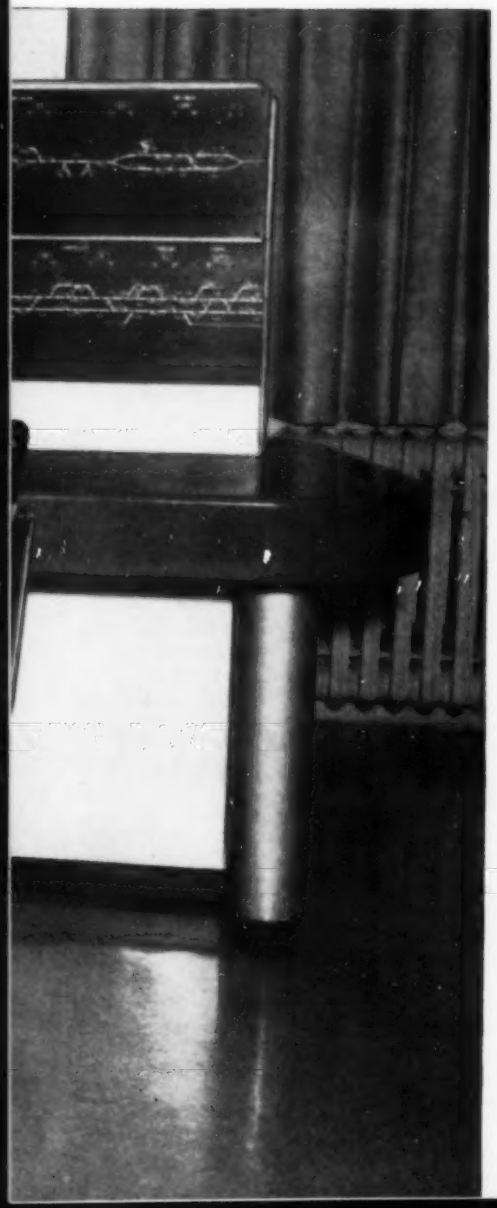
Control Center gives Southern Pacific of 125 miles of single track



THE SOUTHERN PACIFIC COMPANY has long been a user of CTC. In 1929, this progressive railroad first installed CTC on the Stockton to Brighton, California, service. And the first installation of coded carrier control for CTC was made by it in 1942.

Southern Pacific has installed a new traffic control center in the Tucson dispatcher's office. Traffic flow along 125 miles of single track between Mescal, Arizona, and Lordsburg, New Mexico, is controlled by finger tip!

This control center furnished by Union Switch & Signal now makes another major contribution to better traffic-handling efficiency.

LESS THAN HALF THE SIZE of conventional panels, the new Union Traffic Control Center features a miniature track design and modular construction.

FINGER-TIP CONTROL is achieved by concentrating *all* controls in a small operating console in front of the dispatcher.

TERRITORY being controlled can be expanded easily at any time. And this new control center can be used with any existing control system.

Investigate CTC. Find out how CTC can cut your operating costs by 25% or more as it has for others. Learn how you can control the movement of trains more efficiently. Talk to any Union Switch & Signal Representative.

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DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

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Handy Reference to RR Associations

The following list gives names and addresses of secretaries and dates and places of next or regular meeting.

AIR BRAKE ASSOCIATION — John B. Ball, 224 S. Lincoln Ave., Aurora, Ill. Annual meeting, September 21-23, Hotel Sherman, Chicago.

ALLIED RAILWAY SUPPLY ASSOCIATION.—Albert Schiffers, Jr., 80 E. Jackson Blvd., Chicago 4. Exhibit in conjunction with Coordinated Mechanical Associations meeting, September 20-23, Hotel Sherman, Chicago.

AMERICAN ASSOCIATION OF BAGGAGE TRAFFIC MANAGERS.—W. B. Paul, Seaboard Air Line, Room 408, SAL Bldg., Richmond 13, Va.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, Hotel Manhattan, 44th St. & 8th Ave., New York. Annual meeting, October 5-7, Shoreham Hotel, Washington, D. C.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—Mrs. Ruth Weggeberg, Room 835, 431 S. Dearborn St., Chicago 5.

AMERICAN ASSOCIATION OF TRAVELING PASSENGER AGENTS.—R. T. Mollencott, Wabash, 1448 Railway Exchange Bldg., St. Louis 1. Annual meeting, November 16-18, Sheraton West Hotel, Los Angeles.

AMERICAN COUNCIL OF RAILROAD WOMEN.—Catherine Sullivan, Meridian & Bigbee, 2105½ Fifth St., Meridian, Miss. Annual meeting, October 11-14, Sheraton-Cleveland Hotel, Cleveland.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.—N. S. Hibshman, 33 W. 39th St., New York 18. Fall general meeting, October 11-16, Hotel Morrison, Chicago. Committee on Land Transportation.—G. J. Sennhauser, Jr., Chesapeake & Ohio Ry., 1601 Terminal Tower, Cleveland.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Mrs. Ruth Weggeberg, Room 835, 431 S. Dearborn St., Chicago 5. Annual meeting, September 15-17, Conrad Hilton Hotel, Chicago.

AMERICAN RAILWAY CAR INSTITUTE.—W. A. Ross, 200 E. 42nd St., New York 17.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—L. R. Horton, Milwaukee Road, Union Station, Chicago 6.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division—Neal D. Howard, 59 E. Van Buren St., Chicago 5. Annual meeting, March 14-16, Hotel Sherman, Chicago.

AMERICAN RAILWAY MAGAZINE EDITORS ASSOCIATION.—R. J. Schick, Elgin, Joliet & Eastern, Joliet, Ill. Annual meeting, October 21-23, Hilton Hotel, Fort Worth.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—C. F. Huntley, 2000 Massachusetts Ave., N.W., Washington 6, D. C. Annual meeting, September 22-23, Sheraton Park Hotel, Washington, D. C.

AMERICAN SOCIETY FOR TESTING MATERIALS.—R. J. Painter, 1916 Race St., Philadelphia 3. Pacific Area meeting (with exhibit), October 11-16, Sheraton-Palace Hotel, San Francisco.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—O. B. Schier, II, 29 W. 39th St., New York 18. Annual meeting, November 29-December 4, Chalfonte-Haddon Hall, Atlantic City.

Railroad Division.—C. E. Lee, American Steel Foundries, Prudential Plaza, Chicago 1.

AMERICAN WOOD-PRESERVERS' ASSOCIATION.—W. A. Penrose, 839 Seventeenth St., N.W., Washington 6, D. C.

ASSOCIATED TRAFFIC CLUBS OF AMERICA.—F. C. Day, Traffic Service Corp., 815 Washington Bldg., Washington 5, D. C. Annual meeting, September 20-22, Lord Baltimore Hotel, Baltimore.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—W. H. Berghegger, 2039 Randolph St., St. Louis 3. Annual meeting, September 22-24, St. Paul Hotel, St. Paul.

ASSOCIATION OF AMERICAN RAILROADS.—Richard E. Keeler, Transportation Bldg., Washington 6, D. C.

Operations and Maintenance Department, Transportation Bldg., Washington 6, D. C.

Operating Transportation Division.—A. I. Cliloke, 59 E. Van Buren St., Chicago 5.

Transportation Section.—H. A. Eaton, 59 E. Van Buren St., Chicago 5.

Operating Section.—F. J. Parker, 59 E. Van Buren St., Chicago 5.

Communications Section—A. H. Grothmann, 59 E. Van Buren St., Chicago 5.

Fire Protection and Insurance Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5. Annual meeting, September 29-October 1, Netherland-Hilton Hotel, Cincinnati.

Freight Loss and Damage Prevention Section.—G. H. Ruhle, 59 E. Van Buren St., Chicago 5.

Freight Station Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5.

Medical and Surgical Section—F. J. Parker, 59 E. Van Buren St., Chicago 5.

Protective Section—F. J. Parker, 59 E. Van Buren St., Chicago 5.

Safety Section.—F. J. Parker, 59 E. Van Buren St., Chicago 5.

Electrical Section of the Engineering and Mechanical Division.—C. C. Elber, 59 E. Van Buren St., Chicago 5. Annual meeting, June 14-16, 1960, Jack Tar Hotel, San Francisco.

Engineering Division.—E. G. Gehrke, 59 E. Van Buren St., Chicago 5.

Construction and Maintenance Section.—Neal D. Howard, 59 E. Van Buren St., Chicago 5. Annual meeting, March 14-16, Hotel Sherman, Chicago.

Signal Section.—R. H. C. Balliet, 59 E. Van Buren St., Chicago 5. Annual meeting, October 12-14, Hotel Statler, Washington, D. C.

Mechanical Division.—F. H. Stremmel, 59 E. Van Buren St., Chicago 5. Annual meeting, June 14-16, 1960, Jack Tar Hotel, San Francisco.

Purchases and Stores Division.—John L. Timanus, Transportation Bldg., Washington 6, D. C. Annual meeting June 1-3, 1960, Palmer House, Chicago.

Freight Claim Division.—R. E. O'Donnell, 59 E. Van Buren St., Chicago 5.

General Claims Division.—H. W. Hawley, 59 E. Van Buren St., Chicago 5.

Car Service Division.—R. E. Clark, Chairman, Transportation Bldg., Washington 6, D. C.

Finance, Accounting, Taxation and Valuation Department.—Arthur R. Seder, Vice-President, Transportation Bldg., Washington 6, D. C.

Accounting Division.—Philip A. Lyon, Transportation Bldg., Washington 6, D. C.

Treasury Division.—Philip A. Lyon, Transportation Bldg., Washington 6, D. C. Annual meeting, October 12-14, Boca Raton Hotel and Club, Boca Raton, Fla.

ASSOCIATION OF INTERSTATE COMMERCE COMMISSION PRACTITIONERS.—Mrs. M. L. Lyons, Executive Secretary, 1112 ICC Building, Washington 25, D. C.

ASSOCIATION OF RAILROAD ADVERTISING MANAGERS.—A. W. Eckstein, Illinois Central, 135 E. Eleventh Pl., Chicago 5.

ASSOCIATION OF TRACK AND STRUCTURE SUPPLIERS.—P. J. Wolf, Maintenance Equipment Co., 80 E. Jackson Blvd., Chicago 4. Exhibit, September 14-17, Coliseum, Chicago.

CANADIAN RAILWAY CLUB. —W. J. Cadogan, Canadian National Railways, P. O. Box 162, Montreal 3, Quebec. Regular meetings, second Monday of each month, except June, July and August, Queen Elizabeth Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—J. J. Murphy, 4266 Humphrey St., St. Louis 16. Regular meetings third Tuesday of each month except June, July and August, Hotel Pick-Melbourne.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—E. W. Gebhardt, 297 Highland Ave., Elmhurst, Ill. Annual meeting, September 21-23, Hotel Sherman, Chicago.

CAR FOREMAN'S ASSOCIATION OF OMAHA, COUNCIL BLUFFS AND SOUTH OMAHA INTERCHANGE.—C. G. Poetzel, Chicago & North Western, 11th St. and Avenue J., Council Bluffs, Ia. Regular meetings, second Thursday of each month, except July and August, Chieftain Hotel, Council Bluffs.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—A. F. Jungblut, 218 Main St., Glen Ellyn, Ill. Regular meetings, second Monday of each month except June, July and August, Lasalle Hotel.

CENTRAL RAILWAY CLUB OF BUFFALO.—J. A. Gorman, Room 17, 2nd floor, Hotel Statler Hilton, Buffalo 5. Regular meetings, second Thursday of each month except June, July and August, Hotel Statler Hilton.

CHICAGO RAILROAD DIESEL CLUB.—F. C. Foudish, 225 Illinois Blvd., Hoffman Estates, Roselle, Ill. Regular meetings first Thursday after first Sunday of each month except July and August, Hotel Sherman, 7:30 p.m.

CHICAGO RAILROADS CAR ACCOUNTING OFFICERS.—C. F. Sandberg (Chairman) Rock Island RR, 7047 Stewart Ave., Chicago 21. Regular meetings last Wednesday of each month, except July and August, Traffic Club, Palmer House, at 12:15 p.m.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—C. C. Robinson, Monon RR, Lafayette, Ind.

EASTERN CAR FOREMAN'S ASSOCIATION.—F. Frey, Central of New Jersey, Room 6, Jersey City Terminal, Jersey City 2. Regular meetings second Friday of January, February, March, April, May, October and November, Railroad-Machinery Club, 30 Church St., New York. Annual outing, second Thursday in July, Race Brook Country Club, Orange, Conn.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker St., North Little Rock, Ark. Annual meeting, September 21-23, Hotel Sherman, Chicago.

MAINTENANCE OF WAY CLUB OF CHICAGO. —S. Kosco, Illinois Central, 135 E. Eleventh Place, Chicago 5. Regular meetings, October through April, Hamilton Hotel, Chicago.

METROPOLITAN MAINTENANCE OF WAY CLUB.—R. Craib, Railway Age, 30 Church St., New York 7. Meets in February, April, October and December, Railroad-Machinery Club, 30 Church St., New York. Next meeting, October 29.

MILITARY RAILWAY SERVICE VETERANS.—F. W. Okie, Bessemer and Lake Erie, P. O. Box 526, Pittsburgh 30. Annual reunion, September 19-20, Leamington Hotel, Minneapolis.

MISSISSIPPI VALLEY MAINTENANCE OF WAY CLUB.—W. E. Engle, 2125 Scott Ave., St. Louis. Regular meetings second Monday of each month September through May, Coronado Hotel, St. Louis.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—S. Everette Kreeger, 5310 ICC Bldg., P. O. Box 684, Washington 4, D. C. Annual meeting, October 12-15 Bellevue-Stratford Hotel, Philadelphia.

NATIONAL ASSOCIATION OF RAILROAD ENGINEERS OF TEST.—R. A. Boerke (Chairman) Chicago, Burlington & Quincy, Aurora, Ill. Next meeting September 21, Congress Hotel, Chicago.

NATIONAL ASSOCIATION OF RAILWAY BUSINESS WOMEN.—Miss Lottie Brown, Illinois Central, 1967 Madison Ave., Memphis 4.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—L. E. Olson, Great Lakes Carbon Corp., Chicago 1. Annual meeting, October 6-8, Jung Hotel, New Orleans.

NATIONAL DEFENSE TRANSPORTATION ASSOCIATION.—Lily M. Beauchamp, 1612 K. St., N.W., Washington 6, D. C. Annual meeting, October 11-14, Olympic Hotel, Seattle.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE.—L. J. Dorr, Suite 909, Sheraton Bldg., 711 14th St., N.W., Washington 5, D. C. Annual meeting, November 12-13, Palmer House, Chicago.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. R. Betts, Armco Drainage & Metal Products, Inc., 3202 W. Sample St., South Bend 21, Ind. Lewis Thomas, Asst. Secy., 59 E. Van Buren St., Chicago 5.

NATIONAL SAFETY COUNCIL, RAILROAD SECTION.—G. C. Stromsoe, Atlantic Coast Line, Wilmington, N. C. Annual meeting, October 20-22, Hotel Morrison, Chicago.

NEW ENGLAND RAILROAD CLUB.—William M. McCombe, 35 Lewis Wharf, Boston 10. Regular meetings, second Tuesday of each month, October through April, Hotel Vendome, Boston, 6:30 p.m. Annual banquet second Thursday of May each year.

NEW YORK RAILROAD CLUB.—W. P. Dizard, 30 Church St., New York 7. Regular meetings, third Thursday of each month except June, July, August, September and December, Century Room, Commodore Hotel. Reception 5:30 p.m.; dinner 6:30; meeting, 7:45. Annual dinner, December 10.

NORTHWEST CARMEN'S ASSOCIATION.—N. J. Magnich, Minnesota Transfer Ry., 2071 University Ave., St. Paul 4, Minn. Regular meetings, first Monday of each month except June, July, August, Midway Club, 1931 University Ave., St. Paul.

NORTHWEST LOCOMOTIVE ASSOCIATION.—W. N. Cox, P. O. Box 3346, St. Paul 1, Minn. Regular meetings, fourth Tuesday of January, May and September, Hotel Nicollet, Minneapolis; fourth Tuesday of March and November, Hotel St. Paul, St. Paul.

NORTHWEST MAINTENANCE OF WAY CLUB.—L. C. Blanchard, Milwaukee Passenger Depot, Minneapolis 1. Regular meetings, fourth Thursday of each month, except September through April, inclusive, except November and December which are third Thursday, Midway Club, 1931 University Ave., St. Paul.

PACIFIC RAILWAY CLUB. —S. F. Byler, 121 E. Sixth St., Los Angeles 14. Meetings in alternate months in San Francisco and Los Angeles. One meeting a year at Sacramento and at Roseville.

RAILROAD PUBLIC RELATIONS ASSOCIATION. H. H. Baetjer, Association of American Railroads, Transportation Bldg., Washington 6, D.C.

RAILWAY CLUB OF PITTSBURGH.—G. E. Morrison, 2710 Koppers Bldg., Pittsburgh 19. Regular meetings third Thursday of each month, except June-September, incl., and December, Hotel Sherwyn. Dinner, 6:30 p.m.; meeting, 8.

RAILWAY COMMUNICATIONS SUPPLIERS ASSOCIATION.—G. A. Nelson, 30 Church St., New York 7.

RAILWAY ELECTRICAL AND MECHANICAL SUPPLY ASSOCIATION.—L. R. Oswald, Transquip Corp., 919 N. Michigan Ave., Chicago 11.

RAILWAY FUEL AND OPERATING OFFICERS' ASSOCIATION.—L. H. Peters, New York Central, Room 1213 139 W. Van Buren St., Chicago 5. Annual meeting, September 21-23, Hotel Sherman, Chicago.

RAILWAY PROGRESS INSTITUTE.—T. A. Nooner, Jr., First National Bank Bldg., Chicago 3. Annual meeting, November 18-19, Conrad Hilton Hotel Chicago.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—A. W. Brown, 527 Lexington Ave., New York 17.

RAILWAY SYSTEMS AND PROCEDURES ASSOCIATION.—G. C. Vietch Exec. Dir., 433 Grand Central Station, Chicago 7. Next meeting, October 6-8, Hotel Morrison, Chicago.

RAILWAY TIE ASSOCIATION.—R. M. Hamilton, 1373 Grandview Ave., Columbus 12, O. Annual meeting, October 28-30, Netherland Hilton, Cincinnati.

ROADMASTERS AND MAINTENANCE OF WAY ASSOCIATION.—Mrs. Ruth Weggeberg, Room 835, 431 S. Dearborn St., Chicago 5. Annual meeting, September 15-17, Conrad Hilton Hotel, Chicago.

ST. LOUIS RAILROAD DIESEL CLUB. —F. C. Whitlock, Terminal Railroad Association of St. Louis, 376 Union Station, St. Louis 3. Regular meetings, second Tuesday of each month, Hotel York. Dinner, 7 p.m.; meeting, 8.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, 30 Church St., New York 7.

SOUTHEASTERN RAILWAY CLUB.—H. W. Brewer, Sea-

board Air Line, P. O. Box 6351, Jacksonville, Fla. Regular meetings, second Tuesday in February, April, June, August, October and December. May-flower Hotel, Jacksonville.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—D. G. Sudderth, P. O. Box 1205, Atlanta 1. Regular meetings, third Thursday in January, March, May, July and September at Atlanta. Annual meeting in November.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—F. I. Umhau, Southern Ry., Atlanta 3. Next meeting July 22-23, Dinkler-Andrew Jackson Hotel, Nashville.

TORONTO RAILWAY CLUB.—W. F. Saunders, P. O. Box 8, Terminal "A," Toronto 1, Ont. Regular meetings, fourth Monday of each month except February, June, July, August and December, Royal York Hotel.

WESTERN ASSOCIATION OF RAILWAY TAX COMMISSIONERS.—L. A. Grotewohl (President), Room 1544, 80 E. Jackson Blvd., Chicago 4. Semi-annual meeting, September 23, Cosmopolitan Hotel, Denver. Luncheon meetings, 12:15 p.m. first Wednesday of each month, except February, July, August and September, Traffic Club, Palmer House, Chicago.

WESTERN RAILWAY CLUB.—E. E. Thulin, Suite 339, Hotel Sherman, Chicago 1. Regular meetings held in February, March, April, May, October, November and December (Ladies night).

STEEL STRIKE

(Continued from page 10)

ticipates a substantial loss during the steel strike, and is furloughing about 1,200 employees, mostly in maintenance of equipment. Second quarter carloadings in steel traffic have run about 600 a day, which is about comparable to 1956 and 1957. The B&O thinks some of this came from hedge buying against the prospect of a strike, but finds it difficult to say exactly how much.

● **Louisville & Nashville:** The L&N expects an "important loss of traffic" in the Birmingham area during the strike, but feels that this has been partly made up by unusually heavy pre-strike traffic. The road also expects to make up some of the loss when production is resumed; whether there will be a net loss for the year will depend on the rate of steel production after the strike. Some 400 employees at the Louisville shop have been furloughed.

● **Illinois Central:** With a 1959 program calling for construction of 1,925 new freight cars and repairs to 5,680 others, the IC is hopeful that a strike won't interfere with operations at its Centralia and McComb shops. A long strike, the road feels, will affect both steel supply and revenues available for progressing the repair work.

● **Norfolk & Western:** President Stuart Saunders said last week it was "too early to tell" what effect the steel strike would have on the N&W. But one effect was already apparent last week: 237 shop workers at Roanoke, who were furloughed during the coal miners' holiday, were not called back when the holiday ended. Indications were that they would not be called back while the steel strike continued.

● **Virginian:** Although most of the Virginian's traffic is coal, relatively little of it is used in steel production, and the strike has so far had little effect on the road. "It's bound to affect us somewhat," President F. D. Beale commented, "but both our car repair and track maintenance programs are continuing as scheduled.

"I'm not too worried about the strike," Mr. Beale added. "It's got to be. There must be some stop put to the inflationary spiral."

● **Chesapeake & Ohio:** The C&O forecasts a drop of about 5% in merchandise and coal traffic if the steel strike continues through July and 10% if the strike lasts through August. Losses during this 60-day period would be made up in increased traffic before and after the strike, the road thinks. Total carloadings on the C&O are normal so far this year, but ore traffic, both lake and tidewater, is up. C&O will furlough some running employes as the strike continues to reduce traffic, but there are "absolutely no plans to change our maintenance program as laid down some months back," a road spokesman said. Like every other road queried, the C&O has a sufficient stockpile of steel on hand for its own commitments in the next several weeks. The C&O could keep its car program going until mid-November with steel on hand.

● **Chicago & North Western:** C&NW, which counts on ore loadings in Upper Michigan for about $10 million in revenue annually, saw the business drying up last week as the last ore boats were being loaded. C&NW had been moving an average of 3,000 cars of ore per week. As with most roads, North Western saw the length of the strike as the key to finished steel product traffic loss. North Western's car upgrading program (about 8,000 cars this year) wasn't expected to suffer from material shortages, at least through the end of the third quarter.

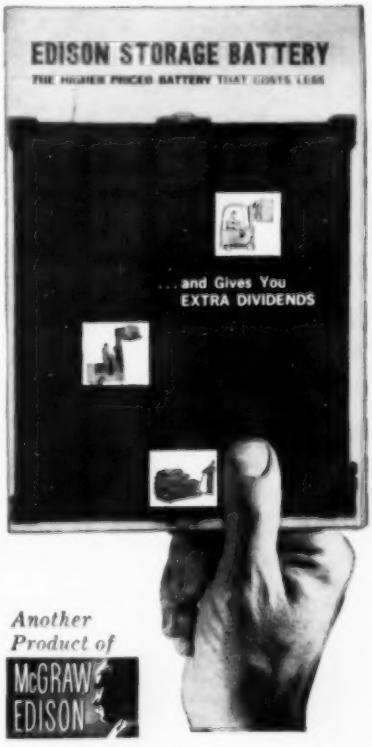
● **Equipment Suppliers:** Material supply holds the key to a booming freight car business in western Pennsylvania (PRR and Trailer Train orders alone total about 17,900 cars for the area, divided among Pullman-Standard, Greenville Steel Car and Pennsy's Altoona Works). Some of the major equipment suppliers are not expecting a steel pinch unless the walkout drags on through the summer. Pullman-Standard has a two-month supply of steel (enough for 3,000 standard cars) over and above material to build cars now on order. ACF Division thinks it is in a position to weather a strike that doesn't last any longer than those in the past. GM's Electro-Motive Division estimates that at current production rates (four units per day), its steel supplies will be adequate for "some time to come." EMD will have an added time advantage—a two-week shutdown for physical inventory, scheduled to begin July 20.

NEW BOOK PROVES EDISON IS "THE HIGHER PRICED BATTERY THAT COSTS LESS"

SEND FOR IT NOW!

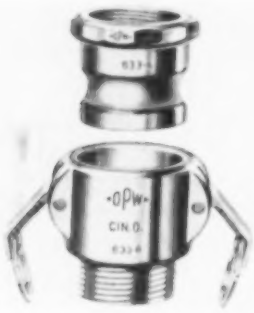
If you're looking for economy and superior performance, this new EDISON book **was written for you.** It tells and **proves** how an EDISON battery—through the years—**actually costs less.** Send for this book now. Write Storage Battery Division, Thomas A. Edison Industries, West Orange, New Jersey. In Canada: International Equipment Co., Ltd., 90 Bates Road, Montreal, P. Q.

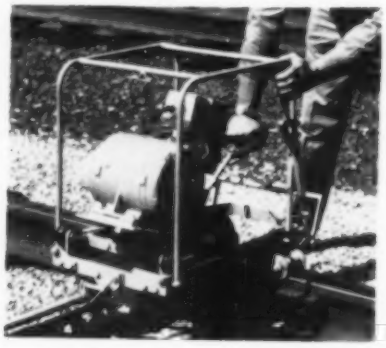
EDISON Nickel Alkaline STORAGE BATTERIES



Another Product of McGRAW EDISON

New Products Report





Synthetic Rubber Gaskets

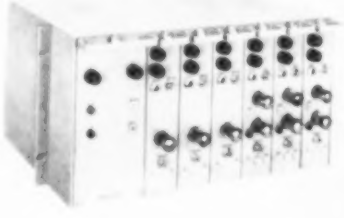
Kamlok quick couplings, designed for use where hose or pipe connections are disconnected periodically, now have du Pont Viton A gaskets. The gaskets are said to be highly resistant to deterioration and to retain their flexibility under adverse conditions. They are suitable for hard-to-handle chemicals at pressures up to 200 psi, and temperatures up to 500 deg F. *OPW-Jordan, Dept. RA, 6013 Wiehe Road, Cincinnati 13, Ohio.*

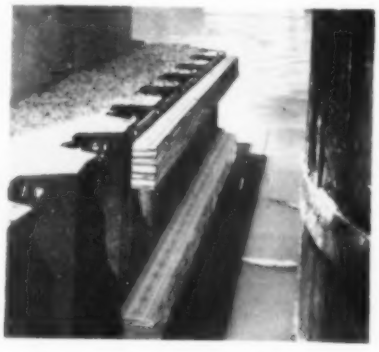
Cross Grinders

A new portable electric cross grinder is available for use with the same welding generator sets that are used for electric welding of rail ends. Designated the Model X-61-E, it is stated to be easily moved, mounted and operated by one man. It weighs 195 lb and is designed to be removed from the track by rolling over on a peripheral framework. *Railway Track-work Company, Dept. RA, 3207 Kensington Ave., Philadelphia 34, Pa.*

Temperature Regulator

A new temperature regulator for proportional control of water, gas, or low-pressure steam is designed for applications where a self-contained valve assembly may be particularly suited. It is two-wire connected to almost any power supply. Applications include package air-conditioning units, hot-water storage tanks and plating tank control. *Barber-Colman Company, Dept. RA, 1300 Rock St., Rockford, Ill.*





Signal Cell

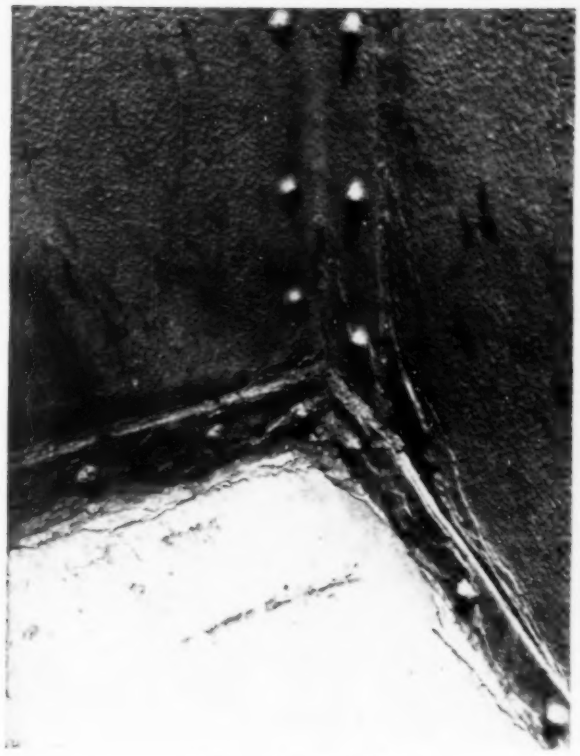
A new 750-a.h. air depolarized cell for railroad signaling equipment rates at 1.3 volts and fits standard 500-a.h. cell jars for easy conversion. Capacity is 975 watt-hours. Its life is 50% greater and up to 66% fewer cells are required for a given watt-hour capacity. At 25 deg F, maximum intermittent and continuous current drains are twice those of Class 3 AAR cells; three times those of Class 2. *National Carbon Co., Dept. RA, 30 E. 42nd St., New York.*

Code Transmission System

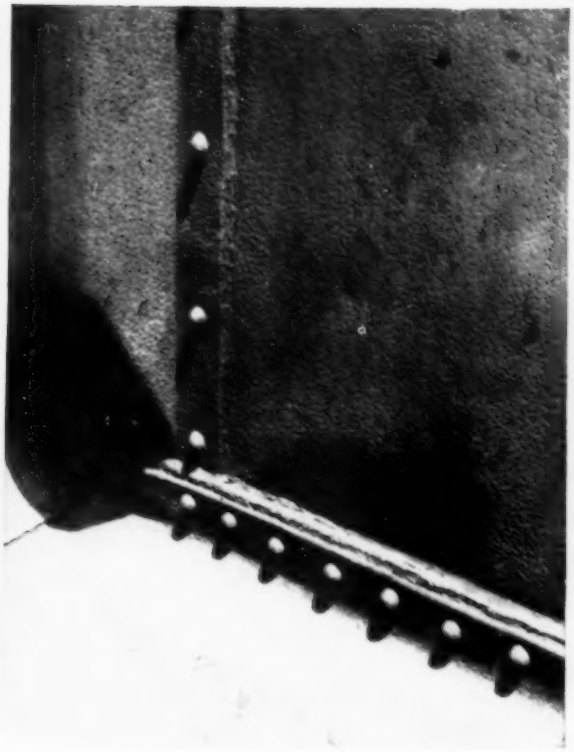
The B-700 type code system for telemetering and remotely controlled alarm circuits includes equipment for transmission of On-Off, pulse code or varying frequency information. Systems may be selected with relay or electronic keying. User can choose the type of transmission best suited to each function to be performed. There are 73 frequency allocations below 12 kc. *Lynch Carrier Systems, Inc., Dept. RA, 695 Bryant St., San Francisco, Cal.*

Marine Dock Bumpers

Designed to cushion the impact of boats and ice against piers and docks, a new line of marine dock bumpers is claimed to be wear resistant. The bumpers each consist of a heavy steel frame to which is fastened laminated segments of rubber-reinforced fabric. The bumper can be furnished in varying lengths and is attached to a structure by either welding or bolting. *Bumpers, Inc., Dept. RA, 2534 Detroit Ave., Cleveland 13, Ohio.*



A copper-bearing steel



A nickel-copper high strength low alloy steel

How Corrosion Research helps lower car maintenance costs

Examine these hopper car interiors. Both have seen ten years of similar service.

Look first at the picture on the left. This is a copper-bearing steel with a good measure of corrosion resistance. Yet notice the rust, the spalling.

Now look at the picture on the right. This is a nickel-copper high strength low alloy steel. All you see is a thin, tightly adherent oxidized surface . . . a surface that protects the base metal, slows the progress of corrosion. This car should provide at least 50% longer life for its owners before it must be repaired.

Inco Corrosion Research at Kure Beach, near Wilmington, N. C. Here, atmospheric corrosion data gathered over many years on thousands of specimens provides answers to one of industry's most urgent problems.

A product of corrosion research

Since 1925, nickel-copper steels have been under study by Inco. The goal: to find low cost alloy steels for car frames and plates with improved corrosion resistance and higher strength . . . and reduce the staggering repair bill caused the industry by corrosion each year.

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The International Nickel Company, Inc.

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INCO NICKEL

Here's **STANDARD'S** *responsibility to the railroads at work...*

STANDARD'S
Diagonal Panel Roof
combines strength and resiliency for ultimate performance–limited depths

Standard's Diagonal Panel Roof gives you the strongest possible design for its depth—vital in these days of higher cars. Why Standard more than any other? Because Standard's unique Diagonal Panel design provides a free flow of metal that eliminates stress concentrations. The roof is weather-proof. Lasts the life of the car. Keeps the cartrame square.

STANDARD RAILWAY EQUIPMENT DIVISION
OF STANDARD RAILWAY EQUIPMENT MANUFACTURING COMPANY
HAMMOND, INDIANA

CHICAGO, ILLINOIS • NEW YORK, NEW YORK • SAN FRANCISCO, CALIFORNIA

MARKET OUTLOOK *at a glance*

Carloadings Slip 3.3% Below Previous Week's

Loadings of revenue freight in the week ended July 11 totaled 554,426 cars, the Association of American Railroads announced on July 16. This was a decrease of 18,899 cars, or 3.3%, compared with the previous week; an increase of 62,860 cars, or 12.8%, compared with the corresponding week last year; and a decrease of 138,173 cars, or 19.9%, compared with the equivalent 1957 week.

Loadings of revenue freight for the week ended July 4 totaled 573,325 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, July 4

District	1959	1958	1957
Eastern	86,882	64,420	80,548
Allegheny	106,933	72,199	106,677
Pocahontas	21,646	16,834	18,404
Southern	96,340	77,009	80,744
Northwestern	99,098	77,479	108,031
Central Western	111,120	105,344	95,790
Southwestern	51,306	47,060	45,140
Total Western Districts	261,524	229,883	248,961
Total All Roads	573,325	460,345	535,334
Commodities:			
Grain and grain products	63,432	67,276	49,993
Livestock	3,375	3,236	3,882
Coal	31,821	25,939	29,526
Coke	8,974	4,504	9,381
Forest Products	38,116	24,985	27,483
Ore	62,326	46,098	86,422
Merchandise l.c.l.	39,977	37,603	45,150
Miscellaneous	325,304	250,704	283,497
July 4	573,325	460,345	535,334
June 27	697,633	627,185	732,733
June 20	723,738	628,010	746,764
June 13	709,139	622,686	746,122
June 6	682,624	613,381	733,477
Cumulative total, 27 weeks	16,726,837	14,764,461	18,375,730

PIGGYBACK CARLOADINGS—U. S. piggyback loadings for the week ended July 4 totaled 8,642 cars, compared with 4,379 for the corresponding 1958 week. Loadings for 1959 up to July 4 totaled 208,578 cars, compared with 128,409 for the corresponding period of 1958.

IN CANADA.—Carloadings for the nine-day period ended June 30 totaled 113,709 cars, compared with 79,233 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Recd from Connections
Totals for Canada:		
June 30, 1959	113,709	36,549
June 30, 1958	98,870	35,129
Cumulative Totals:		
June 30, 1959	1,823,446	719,396
June 30, 1958	1,811,563	729,771

New Equipment

FREIGHT-TRAIN CARS

► *Georgia & Florida.*—Ordered 100 50-ton 50-½-ft box cars from Pullman-Standard at a cost of $935,000, for delivery between Aug. 10 and Aug. 20. (RA, May 18, p. 7.)

► *Minneapolis & St. Louis.*—Ordered 10 50-ft and 4 40-ft box cars from Pullman-Standard at a total estimated cost of $150,000. All cars will be equipped with Evans DF loaders.

► *Wabash.*—Ordered 100 70-ton covered hopper cars from Greenville Steel Car for delivery in July.

PASSENGER-TRAIN CARS

► *New York City Transit Authority.*—Will order 230 new subway cars from St. Louis Car Co. at a total cost of $28,134,000 (including $687,000 for contingencies). The authority approved the bids last week, and also took bids for 100 more cars to be paid for with reallocated funds from its 1959 capital budget. Meanwhile, the authority has decided to ask the city for $63,400,000 to purchase 540 additional subway cars in 1960, plus $1,885,000 to modernize 389 older cars. Other major items in the authority's proposed 1960 capital budget of $158,479,000 include $8,235,000 for 305 new diesel buses; $15,000,000 for further signal modernization; $9,750,000 to lengthen station platforms to accommodate longer trains; $13,000,000 for a deep express train tunnel from West 9th to West 31st street under the present Sixth Avenue Independent subway tracks; $12,350,000 for construction of a third track for the BMT Jamaica line from Alabama avenue, Brooklyn, to Parsons boulevard, Queens; and $10,000,000 for reconstruction of the 72nd street station of the Broadway-Seventh Avenue line.

LOCOMOTIVES

► *Union Pacific.*—Ordered turbo-charger equipment for 25 additional GP-9 diesel locomotive units from the Garrett Corporation Airesearch Industrial Division, Los Angeles, Cal. Garrett turbochargers for the first 25 GP-9 diesels (4 per unit) are now being installed at UP shops, Omaha, Neb.

SPECIAL

► *Indian Railways.*—Has received a $50,000,000 loan from the World Bank to pay for imported equipment and services to be used in the railway modernization program. This brings to $225 million the total amount advanced to the system by the World Bank.

New Facilities

► *Chicago Transit Authority.*—Started work on final segment of West Side subway in median strip of Congress Expressway. Project, costing $4,608,370, is scheduled for completion early next year. CTA will ask bids on installation of block signal and automatic train control systems, power distribution and communications systems, construction of permanent stations and installation of right-of-way fencing.

Vernon Smith, B. R. C. Superintendent of Motive Power, discusses lubrication with Standard Oil's John Black

Every way he can, John Black uses his engineering training and experience to effect operating economies for The Belt Railway Company of Chicago. John's job is to think of ways money can be saved through better lubrication. It's his business to find ways to help the line save on the use of diesel fuel.

But John Black isn't employed by the B. R. C. His employer is Standard Oil. John's job at Standard is to work for the railroads that are his customers. He has 15 years' engineering and service experience with diesel equipment as background for his job. His experience includes service as an area engineer for a diesel locomotive builder plus submarine duty in the Navy. John has an engineering degree from Pennsylvania State and has completed the Standard Oil Sales Engineering School course.

Standard Oil has a staff of specialists who work only with railroads on the use of petroleum products. Like John Black, their job is to work for their customers. To have one of these men call on you anywhere in the 15 Midwest and Rocky Mountain states, just let the Railway Sales Department know. Write, wire or telephone, **Standard Oil Company (Indiana), 910 South Michigan Avenue, Chicago 80, Illinois.**

You expect more from **STANDARD** *and you get it!*

People in the News

ATLANTIC COAST LINE.—**A. S. Trundle, Jr.**, assistant vice president—accounts, retired July 15.

J. I. Wilkerson has left the accounting and tax departments of the **Southern** at Washington, D.C., to become tax commissioner of the ACL at Wilmington, N.C.

BALTIMORE & OHIO.—**Gayle W. Arnold**, manager industrial development, Baltimore, Md., will retire July 31.

CHICAGO & EASTERN ILLINOIS.—**C. A. Geringer**, assistant general freight agent—divisions, Chicago, retired June 30. **V. A. Lynch** and **M. B. Madden** named assistant general freight agents—divisions, Chicago.

William H. Rogers, director of industrial development, Chicago, appointed assistant vice president—traffic.

COTTON BELT.—**C. R. Dehm** named district freight and passenger agent, Waco, Tex.

LEHIGH & HUDSON RIVER.—**Gordon L. Ellms**, assistant engineer, maintenance of way, Warwick, N. Y., appointed engineer, maintenance of way, succeeding **I. D. Talmadge**, who retired June 30.

LEHIGH & NEW ENGLAND.—**H. S. Drumheller**, secretary and treasurer, Bethlehem, Pa., retired June 30.

LEHIGH VALLEY.—**Richard D. Lalanne** and **Lawrence Berman**, general attorneys, promoted to assistant general counsel, New York.

LOUISVILLE & NASHVILLE.—**Eugene V. Fitzpatrick** appointed general agent, Philadelphia, replacing **A. Thurman Ridley**, who retired June 30.

MILWAUKEE.—**W. A. Dietze** appointed director of public relations and advertising, Chicago.

William Wallace, assistant passenger traffic manager, Chicago, appointed general passenger traffic manager there, to succeed **Harry Sengstacken**, retired (RA, July 6, p. 34). **G. H. Kronberg**, assistant freight traffic manager, Chicago, named traffic manager, Seattle, to succeed **P. J. Cullen**, appointed assistant general freight traffic manager, sales and service, Chicago. **C. C. Dilley**, advertising manager, Chicago, and **O. R. Anderson**, general freight agent, Seattle, named assistants to freight traffic manager, sales and service, Chicago. **George Neu**, general freight agent, Milwaukee, appointed assistant traffic manager, San Francisco, succeeding **L. P. Freeman**, who retired June 30. **R. T. White**, assistant to traffic vice president, Chicago, appointed assistant traffic manager, Milwaukee, replacing Mr. Neu, and in turn is succeeded by **P. L. Cowling**, district freight and passenger agent, Sacramento, Cal. Mr. Cowling's successor is **D. H. Parker**, traveling freight and passenger agent, Sacramento. **E. W. Jacobsen**, traveling freight and passenger agent, San Francisco, named district freight and passenger agent, Oakland, Cal., to replace **W. V. Dilworth**, named general agent, San Francisco. **L. J. Kidd** appointed assistant traffic manager, and **J. H. Agner** named assistant to traffic manager, both at Seattle. **M. W. Van Sickle**, general agent, Rockford, Ill., transferred to Cedar Rapids, Ia., succeeding **O. R. Lambertsen**, who retired June 30. **J. S. Lawbaugh**, agent, Beloit, Wis., named to succeed Mr. Van Sickle.

C. L. Nesbitt appointed manager, Milwaukee Motor Transportation Company, a Milwaukee subsidiary, Kansas City, Mo. He was formerly district sales manager, Merchants' Motor Freight, Kansas City.

NICKEL PLATE.—**Myron B. Phipps**, vice president—operation at Cleveland, will become executive vice president on Aug. 1. **G. R. Bowman**, general manager, Cleveland, will become vice president—operation. **H. P. Thinnes**, general superintendent at Bellevue, Ohio, will become general manager at Cleveland.

NORTHERN PACIFIC.—**E. K. Beals**, divisions storekeeper, Rocky Mountain division, Missoula, Mont., transferred to the Yellowstone division, Glendive, Mont., succeeding the late **H. F. Joyce**. **N. M. Doerr** appointed assistant district storekeeper, Brainerd, Minn., succeeding **D. H. McLuskie**, who replaces Mr. Beals.

PITTSBURGH & WEST VIRGINIA.—**Roland J. Albrecht** appointed western traffic manager, 327 S. LaSalle building, Chicago 4. **John I. Robertson**, general agent, St. Louis, Mo., transferred to Kansas City, Mo. **William E. Balling** succeeds Mr. Robertson. **Henry Walling** appointed general agent, Kansas City.

READING.—**A. J. Porambo** appointed acting assistant superintendent, Reading division, succeeding **J. J. McCool**, assigned to special duties.

RUTLAND.—**William I. Ginsburg** became president on July 1, succeeding **Alan T. Denver**, retired (RA, June 22, p. 71). Mr. Ginsburg, a Rutland businessman and Democratic national committeeman from Vermont since 1956, has served as a trustee and member of the board of directors of the Rutland since the corporation was reorganized in 1950. In 1958 Mr. Ginsburg was elected executive vice president, after serving for two years as vice president in charge of industrial development.

SOUTHERN PACIFIC.—**Frank A. Smith**, assistant freight traffic manager, rates and divisions, San Francisco, retired.

OBITUARY

Nelson F. Hauff, 75, retired auditor, **Chicago & North Western**, died July 8 in Illinois Masonic Hospital, Chicago.

Supply Trade

Theodore B. Thompson, director of engineering, **Union Switch & Signal-Division of Westinghouse Air Brake Co.**, has been appointed vice president—engineering, with full responsibility for and authority over all railway research and engineering.

John M. Van Dam has been appointed general manager of the General Logistics division of **Aeroquip Corp.**, Burbank, Cal.

Adam MacKenzie has been appointed marketing manager of the Lamp Metals and Components department of **General Electric Co.** at Cleveland, Ohio. Mr. MacKenize was formerly manager of the department's Cleveland welds plant.

W. E. Mattern, Jr. has been named eastern sales representative, **Chicago Railway Equipment Company**, succeeding **Roland S. Folk**, who retired June 30.

Phillip L. Arnold has been appointed service engineer, district sales office, **Youngstown Sheet & Tube Co.**, 926 Fisher building, Detroit, Mich.

Mecrome Division of **Metal Finishers, Inc.** has appointed **North American Supply Co.** as sales and service representatives in the Chicago area for the restoration of cylinder liners and other devices for diesel engines.

Dr. David G. Braithwaite, vice president, **Nalco Chemical Co.**, Chicago, has been named head of commercial development. **E. H. McGrew**, technical director of the catalyst division, succeeds Dr. Braithwaite as general manager of that division.

R. A. Mitchell, representative in the Central district, Air Brake Division, **Westinghouse Air Brake Co.**, appointed district manager, Central district, Wilmerding, Pa., succeeding **W. B. Renshaw**, who retired June 30. **C. A. Kifer**, service engineer, St. Louis, appointed district engineer, Southwestern district, St. Louis.

Plans have been completed to establish a central research and development laboratory in a modern 20,000 square foot building at the **Fairbanks-Morse** works in Beloit, Wis.

William Wallace
Milwaukee

Myron B. Phipps
Nickel Plate

G. R. Bowman
Nickel Plate

H. P. Thinnes
Nickel Plate

William I. Ginsburg
Rutland

T. B. Thompson
US&S

City-Run Trains Are Proposed

► **The Story at a Glance: A non-profit corporation to operate suburban lines for Philadelphia's 100,000 daily commuters has been proposed by the city's mayor, Richardson Dilworth. Although details of the plan have not yet been fully worked out, its basic elements call for cooperation of the city, the Pennsylvania and Reading railroads, railway labor unions and, perhaps later, suburban communities in providing service similar to that tested in Philadelphia's experimental commuter-aid programs, "Operation Northwest" and "Operation Northeast." Under the plan described by City Solicitor David Berger, the new corporation would run new equipment over existing tracks of the two roads. Trackage agreements and operating contracts would compensate the railroads for losses that might be sustained.**

Mayor Richardson Dilworth of the City of Philadelphia made headlines last week with a surprise announcement of the city's plans for licking its bothersome mass-transit-railroad problem. Although observers of "Operations Northwest and Northeast," the city's experiments with limited payments to railroads for lower fares and better service on selected commuter lines (RA, July 13, p. 29), had expected an overall suburban-aid plan to be forthcoming, they had not expected some of the details Mayor Dilworth included in his original proposal. As first stated to the press, these called for complete separation of commuter facilities from other rail facilities in Philadelphia, with the railroads donating commuter properties to the city without payment. The Pennsylvania and the Reading, both of which operate six separate commuter lines into the city, raised objections to the part of the mayor's proposal that seemed to require the railroads to give up ownership of their commuter trackage and to separate the commuter lines from the rest of their passenger and freight business.

Later, it developed that the city's position was "flexible, not rigid," as Mr. Berger, the plan's author put it, and that all the city wanted was an agreement that would permit the proposed non-profit corporation to run trains on existing railroad tracks.

"We are not seeking the railroads' right-of-way or facilities," Mr. Berger went on to say. "We are asking for an agreement which would enable the non-profit corporation to be the operating agency."

In a joint statement, Reading President Joseph A. Fisher and PRR Vice President Walter W. Patchell responded to the Berger statement with a promise of full cooperation.

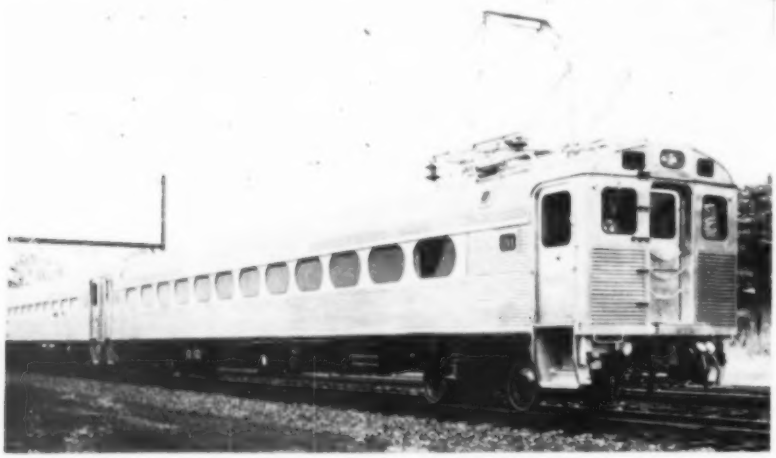
"We are delighted that the plan is flexible and not as rigid as previously had been reported," the Fisher-Patchell statement said. "We are confident this can be worked out if everybody meets with an open mind.

"Of course, until the details of the plan are presented and studied, it is difficult to comment further on it. But we do want to repeat that we will cooperate fully in working out a plan which would be beneficial to the city and the area, and equitable to all."

A spokesman for Mayor Dilworth had the last word: the city would be adamant about only one thing, "the preservation of the commuter lines," and would be willing to negotiate on any of the other points.

The points to be negotiated were outlined in preliminary announcements of the city's plan. These included:

- City credit behind financing of new equipment for the commuter lines. With the initial phases of the program limited to the Chestnut Hill and Fox Chase lines covered by "Operations Northwest and Northeast," this would include 40 to 60 new cars and a total car investment of about $5 million. The Fox Chase line would be electrified at the same time. If and when the plan were extended to include all 12 suburban lines of both railroads, about $60 million would be invested in new cars to replace present equipment.
- Operating agreements with the two roads for the new non-profit corporation to use existing tracks for commuter operations. Both railroads have indicated that they would be receptive to requests by the new corporation that the railroads provide specified services with the understanding that the corporation would pay for the fares, schedules and equipment required. As to the amount of the payments, Mr. Berger commented that the matter would have to be negotiated.
- Participation by the city, the railroads and the 23 operating unions in forming the corporation—and perhaps eventual participation of suburban towns and villages on commuter lines. Under the city proposal, commuter-line personnel would be employed by the city rather than by the railroads. Preliminary talks with labor representatives indicated that the unions would not oppose this point. W. P. Kennedy, president of the Brotherhood of Railroad Trainmen, is reported to have called the city's proposal "a step in the right direction" and to have indicated that the unions would accept the invitation if details were worked out satisfactorily. The suburban communities would not be asked to participate until the initial phases on Chestnut Hill and Fox Chase lines (which are entirely within Philadelphia city limits) had been worked out satisfactorily. Eventually, though, the plan would be expected to include all 12 commuter lines running into the city.



NEW CARS would be among the methods by which the proposed city corporation would stimulate traffic if it took over suburban Philadelphia service. The Pennsy reports that its Budd-designed Pioneer III units "are immediately available for consideration . . . under the new plan." All lines would be electrified.

STRIKE INSURANCE

(Continued from page 13)

sured roads may find themselves even more vulnerable to union attack.

Even the payment shutoff (if 50% of the insured roads are struck) doesn't dim enthusiasm for the plan. Railroad men figure a widespread shutdown would lead quickly and inevitably to government action—and a speedy resumption of operations.

One joker in the deck may turn up, however, in the provisions defining strikes for which benefits may be paid. Some observers question the industry's chances of getting a strong anti-featherbedding recommendation out of an emergency board. If a board made a weak recommendation or backed the union's case, the industry might be faced with unattractive alternatives:

- Give ground in the fight against make-work and lose the momentum built up over the past months; or
- Continue the battle, even if it means refusing to accept emergency board recommendations—and this the carriers have never done.

Some management spokesmen were saying last week, however, that they did not expect the "featherbedding" issue to go to an emergency board. They were still hopeful that President Eisenhower would accept the industry's recommendation and appoint a special commission to study the problem. Leaders of unions representing railroad employees refuse to make this recommendation a joint management-labor proposal.

Northern Pacific President R. S. Macfarlane said last week that the plan is now undergoing thorough study. (Several roads have approved it already.) The strike insurance idea, Mr. Macfarlane added, "has been under consideration for several years and has been studied intermittently during this time."

Revelation of the insurance program last week came as a small surprise, although railroad officers and the AAR had made extreme efforts to keep the details secret. Confirmation that the pact was under active consideration came later from the AAR, which added that the association did not draw up the plan, but a subcommittee of its law committee "did some of the research."

Top railroad men conceded almost nine months ago that such a plan was under consideration (RA, Nov. 10, 1958, p. 9). Since then, planning has proceeded cautiously and quietly—despite hints that a major development was scheduled for mid-August.

In the meantime, the airlines successfully progressed their revenue-sharing plan and won CAB approval for it (RA, Feb. 2, p. 10).

Commuter Laboratory

With two major changes in commuter service occurring more or less simultaneously on July 1, Boston became a laboratory for commuter research. Here's what happened when the New Haven's Old Colony branch finally suspended operations—after a year's partial subsidy in which no permanent solution to its difficulties was found—and when the former Boston & Albany Highland branch opened as an extension of Boston's Metropolitan Transit Authority.

One Line Stopped. The Old Colony lines suspended operations at midnight June 30 (RA, July 6, p. 48). Unlike the situation a year earlier when service had been suspended for one day, a new limited access highway was available for service into the city from the Massachusetts South Shore area. Riders who switched to buses reported the service moderately good, but they were not universally pleased by it. They found their trips generally slower than by rail, even though some complained that drivers had to hit excessive speeds on the expressway to meet the schedule. The relative comfort of bus and train was another source of contention, and some new bus riders feared trouble in winter weather. Sampling interviews suggested that a majority, though not all, favored return of rail service, but this seemed an unlikely possibility in terms of existing difficulties between the governor and the legislature.

Of the 9,500-odd rush-hour patrons of the Old Colony in its last days, informed sources estimate that 4,000 are using through buses, 1,000 are using outlying MTA stations reached by local buses and autos, and the remainder are using private automobiles. Some of those using autos are presumed to be in newly formed car pools, since Boston parking lots show no marked upturn. A significant point: estimators agree that a portion of the former rail travel has simply vanished.

While Another Began. On the other side of the coin, Boston & Albany's former Highland Branch opened July 4 under MTA operation (RA, July 13, p. 18). MTA figures, which are not accepted without question by all Boston transit authorities, claim 20,000 daily riders for the new line. Even allowing for some error in the total, this is conceded to be a striking demonstration of public support for the line. Off-peak riding is particularly impressive; in the forenoon, it reaches 60% of capacity and eight out of every ten seats are filled. Interviews show that many of the new riders never used the line when it was railroad-operated.

Off-peak patrons are generally delighted with service; rush-hour riders have more cause for dissatisfaction. There have been complaints of overcrowded cars, lack of seats, and excessive station delays caused by the fare-collection method in use. It is generally agreed, though, that these are bugs that will be shaken out in use. Perhaps less likely to disappear are complaints related to the fact that this is essentially a railroad operation with PCC cars limited to 3-car trains.

A Conclusion Drawn. One point seems proved though, at least so far: frequent service at low fares stimulates patronage. As a corollary, Boston observers note that there is also a strong suggestion that the drift away from rail travel was not caused by public dissatisfaction with rail service, but by dissatisfaction with the rail service generally offered.

Early returns suggest that the new transit line has not diverted passengers from the parallel MTA Beacon st. line, nor from the B&A main line, which serves the same general territory. A few suburbanites report that they intend to use the B&A in rush hours and still take advantage of the better service on the former Highland branch at other times.

MTA operation of the Highland branch is still too new for results to be conclusive. Also, operations began with free parking at Highland stations, a condition that was changed last Monday when parking fees were initiated. Conceivably, the pattern could change. At the moment, though, Boston's commuter laboratory seems to have real promise as a possible prototype for other cities that have similar problems.

Incidental Information. There is jubilation in Boston over the Federal grant of $1,691,000 for East Boston airport improvements. The amount is approximately equal to the annual tax payments on Boston's South Station, used by the New Haven and the B&A.

You Ought To Know...

"Must We Tax the Railroads Out of Business?" is the title of an article by David I. Mackie, chairman of the Eastern Railroad Presidents Conference, appearing in the August issue of The Reader's Digest, on newsstands this week. Heavily documented with specific cases of discriminatory taxation, the article concludes that "this [property] tax shakedown is inflicting such deep financial wounds that the railroads' very existence is threatened."

Canada's $20,000,000 rail subsidy (RA, April 20, p. 10) has received final approval. Purpose of the payment is to permit reduction of freight rates to and from eastern and western provinces below the level resulting from the 17% increase authorized Dec. 1, 1958.

Wildcat strikes hit two Chicago-based roads for a day and a half early last week. In both cases the engineers walked out, halting Chicago & Eastern Illinois and Belt Railway of Chicago operations until the roads secured temporary restraining orders in U. S. District Court. Hearings on permanent injunction suits will be held July 22. Reported causes of the strikes: minor grievances, employee objections to disciplinary actions.

By the end of 1959, Burlington will have completed installation of a dispatcher - to - train VHF radiophone system extending over its entire Chicago-Denver main line. Also slated for completion this year: point - to - train systems Aurora - Savanna and Galesburg-Quincy on Illinois lines.

A transportation pricing course has been scheduled by the Transportation Center at Northwestern University. Slated for Aug. 3-14, the course is one of a series presented annually for the benefit of policymakers in every area of transport.

The train isn't always the "aggressor" when it meets a car or truck at a grade crossing. Missouri Pacific statistics for 1958 show that 32% of all crossing mishaps were caused by the highway vehicle striking the train. Among other findings of MoPac's accident survey: Arkansas posted the highest crossing death toll, "which appears to invalidate the contention that the extra brakemen, imposed on the railroads by Arkansas law, provide safer protection at crossings."

Seventeen U. S. and Canadian railroads have been given the National Safety Council's Public Safety Activities Award in recognition of outstanding safety programs for the general public and for employees. The award winners: Santa Fe, ACL, B&O, CNR, CPR, C&O, Burlington, D&H, DM&IR, EJ&E, IC, PRR, Frisco, Soo Line, SP, T&P and UP.

Chicago & Eastern Illinois stockholders will vote Sept. 25 on a proposal to merge the wholly-owned Chicago Heights Terminal Transfer into the parent company. Stockholder approval will also be sought for a plan to increase the number of authorized common shares and thereby pave the way for retirement of the Class A stock through an exchange.

USSR diesels, which now handle about 10% of traffic (the rest is 75% steam, 15% straight electric) are expected to be handling 43% by 1965 (with electrics moving 44% and steam only 13%). One of the major units in the diesel program is a new diesel-electric design, rated at 3,000 hp in a single unit. Another 3,000-hp unit now in production has a diesel-hydraulic transmission.

The Andrews Raid is in print again—this time via a 24-page illustrated booklet published by the Louisville & Nashville. L&N says the new account of the Civil War locomotive chase "has been written from carefully documented sources and tells as accurately as possible what happened that day during eight of history's most exciting hours." It's available from L&N's Advertising and Publications Department in Louisville.

Sale of Interstate Railroad to the Southern, in exchange for 275,000 shares of Southern's common stock (RA, June 1, p. 7), was approved by Virgina Coal & Iron Co. shareholders at a special meeting in Philadelphia last week. Southern shareholders will vote on the transaction July 21. ICC approval is also required.

So that Alaskans won't forget the role of the railroads in opening up their state, an Alaska Railroad steam locomotive (retired from service in 1956) is going on permanent display in an Anchorage park. The transfer was approved last week by Secretary of the Interior Fred A. Seaton. ARR is now fully dieselized.

Japan Air Lines is considering slashing fares on domestic flights to meet the competitive threat posed by a new rail line (due to open in 1964) between Tokyo and Osaka. Rail travelers will be able to make the journey in three hours—45 minutes faster than plane time, including terminal-to-city transportation.

A "certificate of appreciation" has been presented to Secretary of Labor James P. Mitchell by the Brotherhood of Locomotive Engineers. It was given "in recognition of his adherence to the principles of freedom and justice in the conduct of labor-management relations . . . and for outstanding services in the administration of the affairs of his Department in the best interests of the general public, labor and management."

Railroad station consolidations don't turn communities into ghost towns, Milwaukee President William J. Quinn told a Milwaukee service club recently. "A small community with railroad service, and agency service adequate to meet its needs," he commented, "is far less ghostly than a small community with no rail service whatsoever."

Seats on German trains can be reserved from the U. S. by special post cards, in English, now available through the representatives of German Federal Railways.

JUST PUBLISHED!

LOCOMOTIVES AND CARS SINCE 1900

by Walter A. Lucas

This brand-new, picture-packed book presents the fascinating lore and little-known details of American and Canadian locomotives and cars since the late '90's. Every railroad man will want a personal copy of this beautiful volume.

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Slow Motion on Paint

One of the leading investment counseling services has advised its clients to watch the outcome of the so-called "paint case" (RA, Apr. 27, p. 78), now pending before the Interstate Commerce Commission. If the railroads are permitted to apply their proposed paint rates (say these experts), then that should signify a new era of relative freedom for the railroads in making competitive rates. In other words, the outcome of this case will have an important effect on the standing of the railroads with investors.

The issue is quite simple. The Eastern railroads proposed new carload rates on paint to become effective last October 1. On complaint of trucking associations, Division 2 of the commission suspended the rates pending investigation. Hearings were completed early in January. At the end of the seven-month limitation on the suspension, at the end of April, the ICC requested a voluntary extension of the suspension for 60 days, which the railroads granted. Near the expiration of this 60 days, the ICC sought a further extension—this time for four months. The railroads agreed to that, too.

Altogether a delay of 13 months has been imposed—or obtained, anyhow—by the ICC, on a simple railroad price change. In any other business, a decision to make such a change in prices would be reached one day and become effective the next.

The railroads presented unassailable evidence that the new rates would more than meet out-of-pocket costs, even for minimum loads, and shorter distances. On heavier loads and longer hauls charges would be far above these costs. The railroads expect that the rates will increase both gross and net revenue substantially.

The sole issue in this case, really, is whether railroads can be required to maintain rates at a higher level than they desire—just to make it easier for their competitors. The ICC has to decide whether, under last year's amendment to the rate-making rule, it has the right to "hold the umbrella" for the trucks; and, if so, whether it should exercise that right.

If the decision is adverse to the railroads, then there ought to be an appeal to Congress or the courts—because the railroads just cannot do business in the year 1959 under the kind of restriction so far applied to them in this case.

Such regulation is strictly a one-way street for the railroads—it restricts them in competition, but affords them no parallel protection. This follows because two-thirds of trucking and over 90% of waterway transportation are completely exempt from ICC jurisdiction.

If the ICC does not permit regulated carriers to compete effectively against those that are not regulated, then regulated carriers are going to keep on shrinking in relative importance. No regulated carriers—no regulators. It certainly does not make sense that the ICC should so conduct itself as to put regulated carriers, and itself, out of business.

What's 'Out-of-Pocket' Anyhow?

There is a lot of discussion going on about the difference between so-called "out-of-pocket" and "fully distributed" costs—and which of the two should be the "floor" in setting rates.

The Southern Pacific performed a signal service in clarifying this important question by engaging the services of Professor Dudley F. Pegrum to testify in its behalf in three recent rate suspension cases. Copies of his testimony were widely circulated among railroad lawyers—and the SP has filed printed briefs in these cases, emphasizing Dr. Pegrum's position, e.g.—

"'Out-of-pocket' or 'variable' costs change with changes in rates of output whereas 'fixed' or 'constant' costs do not. 'Fully distributed' costs contain 'fixed' or 'constant' costs.

"Once the 'fixed' or 'constant' costs have been incurred their aggregate burden cannot be affected by decisions as to what, and how much, to produce. The objective of a transportation company, like that of any other business, is to maximize net income; that net income consists of gross revenues minus both the 'fixed' and the 'variable' expenses. In this equation 'fixed' expenses are a constant, so that production and price decisions are made with the objective of making the excess of gross revenues over 'variable' expenses as large as possible. If that excess is maximized the greatest possible contribution to 'fixed' expenses and profit will be achieved."

The attainment of fully distributed costs—and even a lot more than such costs—is an entirely legitimate goal in setting maximum prices. It has no place at all in deciding what the "floor" for prices should be. Its use in such cases is harmful, alike to buyer and seller.

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